EVIDENTIARY HEARING

BEFORE THE

CALIFORNIA ENERGY RESOURCES CONSERVATION

AND DEVELOPMENT COMMISSION

In the Matter of:	)	
	)	
Application for Certification	)	Docket No.
for the Morro Bay Power Plant	)	00-AFC-12
Project	)	
_____	)	

1055 MORRO AVENUE

MORRO BAY, CALIFORNIA

WEDNESDAY, FEBRUARY 6, 2002

9:07 a.m.

Reported by:
James A. Ramos
Contract No. 170-01-001

COMMITTEE MEMBERS PRESENT

Michal Moore, Commissioner, Presiding Member

HEARING OFFICER AND ADVISORS PRESENT

Gary Fay, Hearing Officer

Terry O'Brien, Adviser to Chairman Keese

STAFF AND CONSULTANTS PRESENT

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Kae C. Lewis, Project Manager

Michael Ringer

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Bonita L. Churney, Attorney
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ALSO PRESENT

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Gary E. Willey, Engineer
San Luis Obispo County Air Pollution Control District

Stephen E. Ziemer, Senior Air Quality Specialist
Science Applications International Corporation

Mr. Zaitz

Leonard Wagner

Robert Freiler

Mandy Davis

I N D E X

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P R O C E E D I N G S

9:07 a.m.

PRESIDING MEMBER MOORE: Good morning, we are on the record. We will continue with the cross-examination, and at this point the Intervenor CARE has the floor --

(Off-the-record comments.)

HEARING OFFICER FAY: Let's just say Coastal Alliance.

PRESIDING MEMBER MOORE: Too many cases, I make my point. Counsel, you have the floor.

Whereupon,

GARY RUBENSTEIN and ERIC WALTHER

were recalled as witnesses herein, and having been previously duly sworn, were examined and testified as follows:

CROSS-EXAMINATION - Resumed

BY MS. CHURNEY:

Q Mr. Rubenstein, are you familiar with CARB and the OEHHA, that's OEHHA's, pending recommendations of the California PM10 annual standard be lowered from 30 to 20 micrograms per cubic meter?

MR. RUBENSTEIN: Not specifically. Ms. Churney, as we discussed earlier there were a

couple of clarifying comments I wanted to get on the record to complete responses to questions you'd asked yesterday.

MS. CHURNEY: Sure, go ahead and do that now if you wish.

MR. RUBENSTEIN: First of all, you had asked a question yesterday regarding whether there were any changes in the dispersion modeling analyses that were performed subsequent to preparation of the application for certification.

I neglected to mention one additional revision which was a change to the analysis of the impacts of the project during startup. That was to correct an error that had been identified by both the District Staff and by the Commission Staff.

So, it was an additional revision to the modeling analysis that was submitted after the AFC was filed.

The second question that you asked related to a calculation that was performed in Ms. Soderbeck's paper, exhibit A to her declaration at page 9. And the question there related to concentrations of PM10 that were modeled excluding any receptors on Morro Rock, and using the highest

modeled concentrations rather than the highest second-high, which is a distinction that we need to make for regulatory purposes.

The numbers which I provided to Ms. Soderbeck, and just for the record, are as follows: For the existing boilers the annual concentration is 0.149 mcg/cu meter, that's annual average again. And the highest 24-hour average concentration is 4.28 mcg/cu meter.

For the new units the annual average concentration is 0.83 mcg/cu meter; and the highest 24-hour average concentration is 10.01 mcg/cu meter.

Again, just to clarify, those are all concentrations that exclude any impacts on the Rock. And in 24-hour average concentrations of the highest values.

I believe that answered the outstanding question we had from yesterday.

MS. CHURNEY: And these are maximum model concentrations, is that correct?

MR. RUBENSTEIN: That's correct.

MS. CHURNEY: Does your modeling -- how close can you take your model to test for actual or average conditions? Is that possible?

MR. RUBENSTEIN: As I indicated during my testimony yesterday evening, there are many conservative elements of the assumption including meteorology, ambient conditions as they affect operation of the new units, emission rates, and the periods of time when background concentrations are the highest.

One can make less conservative assumptions at any one of those stages, so I'm not quite sure what you mean.

The answer to your question is yes, we could make adjustments to those numbers to reflect what we actually expect to see, depending on how less conservative and more realistic you'd like the information to be.

MS. CHURNEY: Have you done that with your modeling?

MR. RUBENSTEIN: Actually there's -- we've not done that with the modeling for this project, but we did provide a letter to CAPE, I believe it was last year. Let me find it for you, just one second.

It's exhibit 55, and it's a letter dated June 7, 2001, from me to Henriette Groot of CAPE. And it's a comparison of measured and modeled

ambient plume concentrations.

And the letter describes an empirical experiment that we performed at a project location that's actually in Hawaii where we had a monitor that was located downwind of a power generation facility. And there were no significant intervening sources between the monitor and the power plant.

And in that letter to CAPE we indicated that the dispersion models, which are comparable to the models that we're using in this proceeding here, predicted, for example, annual average concentration of roughly 25 mcg/cu meter of nitrogen dioxide, whereas the maximum monitored concentration at the monitor, the same location, was 3 mcg/cu meter, indicating an over-prediction of roughly by a factor of 8.

There were similar comparisons for sulfur dioxide which is the other pollutant monitored at that station. And the over-predictions there ranged from roughly a factor of 4 to roughly a factor of 12.

So that will give you some rough estimate of the difference in the over-conservativeness of the model analyses that we're

talking about for the Morro Bay project, as well.

So it's roughly in that order of magnitude.

MS. CHURNEY: Did that study look at the difference in PM concentrations?

MR. RUBENSTEIN: No, it did not, because being a coastal location there would have simply been too many other sources of PM10 that would have interfered with this type of analysis.

The reason why we looked specifically at nitrogen dioxide and sulfur dioxide is that this particular power plant is a very large source in that area of those two pollutants. Its emissions dominate any other local sources. That would have not been the case for PM10. And so, no, we did not do the analysis for PM10.

However, there's no reason to believe that the conservativeness of the model would be any different for PM10, as compared to these other pollutants. The reason is that the particles, as you know, are so small that they, in fact, behave like a gas.

MS. CHURNEY: Going back to the CARB and OEHHA recommendations for California PM10 annual standards, have you done any analysis to determine

the cumulative impacts of the new plant if the new standards are, in fact, adopted?

MR. RUBENSTEIN: No, we have not. Since there are no new standards we have not speculated as to what they might be, and we've not taken a look at cumulative impacts in that context.

MS. CHURNEY: Was modeling done for the PM2.5 emissions from the new plant as distinct from PM10?

MR. RUBENSTEIN: No. For purposes of our analysis we conservatively assumed that all of the particles, and again I want to emphasize we assumed, that all of the particles emitted from the project would be PM2.5. That was a conservative assumption.

But we did not do any separate modeling for PM2.5.

MS. SODERBECK: Good morning, Gary.

MR. RUBENSTEIN: Good morning, Pam.

MS. SODERBECK: We're going to switch topics here a little bit. Turning to the issue of the ERCs, the interpollutant offsets for a second, I'd like to run through, I think perhaps the best place to do that is table 8, page 3.1-23 of the FSA.

That's table 8, page 3.1-23.

MR. RUBENSTEIN: I have that in front of me.

MS. SODERBECK: This is a summary of the ERCs for the project, and I'd like to focus just on the PM10 right now.

MR. RUBENSTEIN: Certainly.

MS. SODERBECK: As I read that, and correct me if I'm wrong, in terms of credits from direct PM that would include, let's see, 97.05 tons from shutting down the new plant, and 17.23 tons from the cessation of the oil burning, and an additional 1.92 tons from the Chevron ERCs that were purchased, correct?

MR. RUBENSTEIN: That's correct.

MS. SODERBECK: And the balance of the 87 tons is from interpollutant trading, which really comes from the SOx as a precursor, correct?

MR. RUBENSTEIN: That's correct.

MS. SODERBECK: The local APCD here allows interpollution trading on a one-for-one basis with no additional discounting beyond the initial 20 percent required to bank the credits to begin with, is that correct?

MR. RUBENSTEIN: I believe that's a

matter of District policy. I don't believe the District's regulations specify a particular ratio.

MS. SODERBECK: Okay. Has the EPA approved the interpollutant offsets for the project yet? Or is there any EPA determination on the air quality of this project yet?

MR. RUBENSTEIN: The EPA reviewed the preliminary determination of compliance which discussed the interpollutant offsets. And they filed written comments with the San Luis Obispo Air District on June 19, 2001. Those comments did not raise any questions at all about the interpollutant trade.

With respect to EPA's review of the project for PSD purposes, the offset requirements are not applicable in that case, and so EPA would have no reason, under their regulations, to review that trade.

So, to sum up, in the context of the Air District's decision, EPA did review the trade and have no comments. And in the context of EPA's own decision, the credits are irrelevant.

MS. SODERBECK: The total of 203.2 tons per year of PM10 from the new plant, does that include any secondary particulates resulting from

the ammonia slip, if there are any -- or if there will be any?

MR. RUBENSTEIN: To a certain extent it does. The test method that's used to measure particulates includes, as you know, something that's referred to as the condensible fraction. A small portion of the exhaust gas is bubbled through impingers, glass containers containing a liquid, generally distilled water or isopropyl alcohol, to condense out any aerosols and to simulate some near-stack formation of secondary particles.

And so to the extent that the test method does, in fact, capture some of these secondary particles, it does.

I have to indicate that in my professional opinion most of the particulates that we're talking about from gas-fired combustion turbines are, in fact, sulfates that form during the combustion process across the catalytic systems and in the stack. And there's not a whole lot of sulfur that's left coming out the stack to participate in subsequent reactions.

MS. SODERBECK: Okay. I'd like to get into the area you were talking about, the front

and back half issue.

In your testimony you address the issue of whether the emissions of the 11 pounds per hour and that's with -- without duct firing, and 13, I think it's 13.3, I think your testimony indicated 13.5? I guess I'm asking for a clarification on that number to start with.

MR. RUBENSTEIN: The correct number, I'm quite certain, is 13.3 pounds per hour with duct firing.

MS. SODERBECK: Okay. To go on, you indicated that the emission limits proposed in your view definitely include both the front and the back half as they are, as you pointed out, required to do by law.

What are the specifications for the emission rates for the GE Frame 7 turbines that are used here from GE, in terms of emission rates?

MS. SODERBECK: I'm not sure what you mean by specifications. What does GE tell its customers?

MS. SODERBECK: Yeah, what does GE tell its customers that the PM emission rates will be?

MR. RUBENSTEIN: GM tells its customers different things depending on who the customers

are, which is why I no longer rely on GE estimates for particulate emissions from their turbines.

I've seen GE estimates that range anywhere from 18 to well over 20 pounds per hour. And I've seen estimates from GE that are as low as 9 pounds per hour for exactly the same turbine models.

That's why I rely on my own professional engineering judgment, rather than on the GE numbers.

MS. SODERBECK: Okay, if we could turn to your testimony, prefiled testimony on page 123.

MR. RUBENSTEIN: I have that in front of me, thank you.

MS. SODERBECK: Unfortunately I don't have it quite there yet. The last paragraph that carries on into the next page, you're discussing the issue of whether there will be new violations or -- I don't want to say merely -- or contributions to existing violations of the PM standard from the new plant's emissions, correct?

MR. HARRIS: Ms. Soderbeck, I think your page numbers might be slightly different, so can you tell us which paragraph --

MS. SODERBECK: The paragraph that

starts: The PM10 emission rates.

MR. HARRIS: That says: The PM10 emission rates analyzed for the Morro Bay project?

MS. SODERBECK: Right.

MR. HARRIS: Okay.

MS. SODERBECK: That paragraph.

MR. HARRIS: Page 123, --

MR. RUBENSTEIN: That was the current paragraph, thank you.

I'm sorry, Pam, I've lost the question now.

MS. SODERBECK: I just wanted to get you focused on what paragraph.

You're addressing basically the issue of the guarantees in one regard, and then also the issue of whether there's a new violation or a contribution to an existing nonattainment.

MR. RUBENSTEIN: Actually I think I was just paraphrasing my understanding of CAPE's position on this. I wasn't reaching any conclusions of my own here in this particular paragraph.

MS. SODERBECK: Okay.

MR. RUBENSTEIN: If you have a specific question I'd be happy to answer it.

MS. SODERBECK: Okay, let me back up to the first sentence of that paragraph. You referred to using EPA approved test methods. And I was wondering which EPA methods you were referring to in this testimony.

MR. RUBENSTEIN: My consistent recommendation for measuring PM10 emissions from gas-fired gas turbines is the use of EPA method 201A for the front half or filterable particulates.

EPA method 8 for the back half or condensible particulates with a minimum sample collection time of four hours.

MS. SODERBECK: And those are the methods that you used in analyzing the emission rates for this project?

MR. RUBENSTEIN: No. The emission rates for this project were established based on engineering judgment. Those recommended test methods independently determined as being the most accurate to truly assess particulate emissions from gas-fired gas turbines.

MS. SODERBECK: Okay.

MR. RUBENSTEIN: But they are -- if your question is are those consistent, the answer is

yes.

MS. SODERBECK: On page 124 you describe the paper that you prepared for the San Diego conference March 2001 on this issue of the source test methodology, correct?

MR. RUBENSTEIN: That's correct.

MS. SODERBECK: I think I have a copy of that, I just want to pass it out and make sure what I obtained off the web is, in fact, what you're referring to here.

Is that, in fact -- do you have a copy in front of you now?

MR. RUBENSTEIN: Yes, I do.

MS. SODERBECK: Is that the paper that you presented that you're referring to?

MR. RUBENSTEIN: Yes. I haven't checked to see if there are any missing pages, but it appears to be the whole paper.

MS. SODERBECK: I hope not. It's inadvertent if there are.

Would it be possible to get this marked as an exhibit for reference purposes?

PRESIDING MEMBER MOORE: Any objection, counsel? She's referring to it in the question.

MR. HARRIS: Actually, no. Let's go

ahead and mark it and have it moved into evidence, as well.

PRESIDING MEMBER MOORE: All right, I'll come back with a number in just a moment.

MS. SODERBECK: Okay.

PRESIDING MEMBER MOORE: I believe it's going to be 147. No objection. All right, entered.

Go ahead.

MS. SODERBECK: In that paper, if I understand it correctly, in essence you're presenting an entirely new methodology of approach to the source testing for particulate matter that you, in essence, created from your experience?

MR. RUBENSTEIN: No, it's a new combination of existing methods, rather than an entirely new method. These are all established EPA methods.

MS. SODERBECK: But the combination of using the 201 and the 8, method 8, is that something that you have come up with? Has this been done before you did this paper?

MR. RUBENSTEIN: It had been done before on a couple of units based on my recommendation, but I believe that I'm the originator of, as I

said, this combination --

MS. SODERBECK: Okay, that's what I was trying to get. I'm sorry, -- my questions.

Now is EPA method 8 designed to measure particulates?

MR. RUBENSTEIN: EPA method 8 is specifically designed to measure sulfates, and in the way that I use the method and recommend that the method be used, you dry out the contents of the first impinger and analyze it graphometrically so that you get all condensibles and not just sulfates.

So the version of method 8 and variation on method 8 that I recommend, and that I've had my clients use, does, in fact, catch all condensible particulates.

MS. SODERBECK: All right, so even though EPA 8 is designed to measure only sulfates, you believe it, in fact, picks up other things like ammonium and other elemental chemical compositions that might be in that back half?

MR. RUBENSTEIN: That's correct. Because the way the impinger is analyzed is identical to the analytical technique that's used for method 202, which is to dry the impinger catch

and analyze it graphometrically.

MS. SODERBECK: Okay. Was this methodology accepted for measuring source tests for PM at Los Medanos?

MR. RUBENSTEIN: Yes, it was.

MS. SODERBECK: And the tests that you referred to in your testimony that confirmed the methodology, or that the emission rates being lower than 11 pounds per hour from Los Medanos were done with this methodology that you described, the 201 for front half and the 8 for the back half?

MR. RUBENSTEIN: Yes, it's method 201A, it's a slight difference.

MS. SODERBECK: I'm sorry, 201A.

MR. RUBENSTEIN: Right. But, yes, that method was used. I might point out that this combination of methods actually has been approved now by EPA for three power plants comparable to this project. That includes the Sutter Energy Center, the Los Medanos Energy Center, and also the Southpoint facility in Arizona.

MS. SODERBECK: Did you request that this methodology be used for the Morro Bay Plant with the APCD here?

MR. RUBENSTEIN: Since we haven't gotten to the point of proposing a test protocol we haven't made a specific request yet, but we have told the District that we will be requesting the use of a method like this.

There is some additional research work that's going on, partially sponsored actually by the Energy Commission, looking at new methods of measuring particulate emissions from gas-fired gas turbines. And by the time we do testing from this plant, that new method may actually be an approved EPA method, and we may switch to that.

MS. SODERBECK: All right. The existing AQ-17 and the condition 17 from the FDOC, and I'm sorry I don't have these pages in front of me -- if I can find them -- if you look at the FSA, it's page 3.1-37.

MR. RUBENSTEIN: I have the corresponding section in the FDOC in front of me.

MS. SODERBECK: Okay. The methods that are specified in those conditions for source testing for PM10, it's specifically 201A and 202, correct?

MR. RUBENSTEIN: Yes, but the lead-in sentence says: Unless otherwise directed by the

APCO. So we do have the opportunity in this condition to request an alternative method. And the APCO has the discretion to approve it.

MS. SODERBECK: Okay. Let me try and ask this question without being argumentative or pejorative in any way.

MR. RUBENSTEIN: I'll take it that way, then.

(Laughter.)

MS. SODERBECK: Of course. I know Mr. Harris will.

(Laughter.)

MS. SODERBECK: Would you agree generally that the emission limits on PM in any particular case are only as effective as the monitoring capability of those limits? In terms of public health effectiveness is, I guess, what I'm getting at.

MR. RUBENSTEIN: No, I wouldn't agree with that as a general statement. It depends very much on the type of emission source.

If, for example, you had an emission source that had a large amount of particulates that had to be controlled using a backhouse or an electrostatic precipitator, then there are various

aspects of maintenance of that equipment that could lead to increases in emissions in between source tests.

And consequently you would want to prescribe more stringent monitoring requirements, and not monitoring of emissions, but monitoring of operation of the equipment.

In the case of a natural-gas fired gas turbine and gas-fired heat recovery steam generators, in my professional opinion there is nothing like that. Those emissions are very stable. They tend to remain stable over time. All of the uncertainty that I've seen, all the variation I've seen in tests are attributable to the kinds of testing errors that identified in my paper that we've just identified as exhibit 147.

So, in the case of particulate emissions from gas-fired gas turbines, frankly I think that the test of requirements that include an initial compliance test and periodic testing every couple of years thereafter would be sufficient. I don't think more frequent testing or monitoring is required.

MS. SODERBECK: Okay, let me ask you a couple more questions on your paper. The only

change I've made to this is I actually numbered the pages.

MR. RUBENSTEIN: Thank you.

MS. SODERBECK: But I don't have time to number some of these other things, but page 9, entitled, other sources of gas turbine PM10 emissions.

The first bullet you say there is limited speciation data, and I'd like you to just explain briefly what the speciation refers to as you're using it here.

MR. RUBENSTEIN: What I'm referring to is the detailed chemical composition of the particulates.

MS. SODERBECK: And then you go on to say carbon's a likely component. Is most of the carbon picked up in the front half as opposed to he back half? The 201A versus the 202, or the method 8 that you're proposing.

MR. RUBENSTEIN: Yes, I believe so.

MS. SODERBECK: And I think you said yesterday that that would include both elemental carbon and organic carbon? Or if you didn't, I'm asking.

MR. RUBENSTEIN: It includes both. I

don't recall the ratio, I believe one of those two is dominant, and I can't recall which one.

There was a paper presented at the same conference where I presented exhibit 147. That paper was presented by someone from General Electric Engineering, Research and Technology out of Irvine.

And his paper included the most detailed speciation analysis to date of particulates from natural gas combustion. It was not from a turbine, however. It was from a boiler and from a refinery heater.

And in answering your questions today i'm trying to remember, perhaps not as well as I should, what was in his paper.

MS. SODERBECK: That's okay. On page 11 is a diagram that you've labeled the method 201A sampling train. And I just want to make sure that I'm clear, on the same page with you so to speak, that the top part of this diagram, in fact, shows both the 201A and what would be the back half 202, or perhaps in this case, your recommended method 8, is that correct?

MR. RUBENSTEIN: Ironically the sampling train includes both the front half and the back

half regardless of whether you call it method 201A or you call it method 5 or anything else.

Method 202 prescribes what goes into the impingers and how you do the analysis of the back half.

To simplify things because we're getting a little esoteric here, what's traditionally referred to as the front half in that diagram would include the probe nozzle, the PM10 sampler, the filter holder, and the front half of the filter holder and the filter, itself. And all of that would be measured and recorded under method 201A.

What's referred to as the back half is the back part of the filter holder, to the extent any particles impact on that, the heated probe to the impinger line and the impingers. So it would be referred to as the back half.

And where methods 202 and 8 differ is in what is included in the impingers, how that material is analyzed, and which impingers are included in the determination of PM10.

MS. SODERBECK: Okay, just a couple more questions on your paper. Page 14, in terms of the test data that you have included in your summary,

as I understand it, there are 92 tests from 36 combustion turbines, and these turbines are from a variety of makes and sizes?

MR. RUBENSTEIN: That's correct.

MS. SODERBECK: And the test methods that were done for these tests that you're looking at varied and were of different collection times?

MR. RUBENSTEIN: That's correct.

MS. SODERBECK: And then you in effect took those and normalized them, as you say here, to 180 megawatt turbine, which would be the kind of turbine that we're talking about with the GE Frame 7, correct?

MR. RUBENSTEIN: That's correct.

MS. SODERBECK: Okay, on page 15, again without having heard the lecture, myself, I'm assuming what -- you correct me if I'm wrong -- but I'm assuming under the table where it says mean, and in the last column where it says total pounds per hour, the 17.58 pounds per hour --

MR. RUBENSTEIN: Yes, I see that number.

MS. SODERBECK: Is that for the turbine alone, or would that include any tests with oxidation catalysts for example, or duct firing?

MR. RUBENSTEIN: For the purposes of

this analysis I did not distinguish between projects which included oxidation catalysts or not, whether they had SCR or not.

I attempted, to the extent that I could, to select only test results where there was no duct firing, but in some cases that was not possible and there may have been a small amount of duct firing.

So the 18 pound per hour number that's shown as the mean value includes all of those variables in it.

MS. SODERBECK: I have a couple more potential exhibits I'd like to pass out, and ask you -- these are test results, and I'm just trying to clarify whether these were included in your study.

I think you are very familiar with them.

PRESIDING MEMBER MOORE: These are test results from?

MS. SODERBECK: These are from GE7 turbine tests at other -- I shouldn't say other, at locations that have that same model that's being proposed here.

HEARING OFFICER FAY: You plan to be asking questions regarding these documents?

MS. SODERBECK: Yes, I want to ask Gary whether some of these results were included in his analysis that he's talking about in his paper.

PRESIDING MEMBER MOORE: Well, let's find out whether or not these have actually been seen by anyone before.

Mr. Rubenstein, have you ever seen these documents before? The first one's title, emission test result report for emissions compliance two General Electric Frame 7EA turbines in Hidalgo County, Mission Texas.

And the second is called test report combustion turbine combined cycle compliance demonstration, Gilbert Industrial Corporation.

Have you ever seen either one of those?

MR. HARRIS: Commissioner, before Mr. Rubenstein answers I have not seen these documents. They were not prefiled. And I want to make that point very clear. It may be that my very skilled witness can answer questions out of those, but --

PRESIDING MEMBER MOORE: Right, and it may be that these are reference documents that were cited in some way in his work. But I think we'll have to be careful making sure that there is

already some knowledge of these before we allow this to go forward.

MS. SODERBECK: I agree, and that's exactly my question, whether Mr. Rubenstein included these test results in his review of the 92 tests he's --

PRESIDING MEMBER MOORE: That's a fair question. We can ask him to answer that.

MR. RUBENSTEIN: Without taking too much of the Committee's time, and looking first at the one that's referred to as the Mustang Generating Station -- I don't have these labeled yet, the one has the TRC logo on it.

I included in my analysis results of four tests at that facility in November of 1999 and March of 2000. I suspect that what you handed out, Pam, may be the same results but I'm not certain. I'd have to check and make sure.

But, anyhow, I have four tests from the Mustang facility included in my data set.

MS. SODERBECK: Okay, that's fine.

MR. RUBENSTEIN: The second set of results appear all to be from the Frontera Facility.

MS. SODERBECK: I apologize, I'd submit

them as a stack, but there's two test results from Frontera, May 2000 and July 1999. And then on the back, and again I apologize to everyone, I just ran out of time to get these consecutively numbered, there's a test report on the Occidental Chemical Corporation Cogeneration Facility.

MR. RUBENSTEIN: With respect to Frontera it appears that I included the May 2000 test results in summary form, but I don't see that I had any other results from that facility.

And then lastly, with respect to the Ingleside facility, --

MS. SODERBECK: Yes.

MR. RUBENSTEIN: -- for Occidental Chemical, I had some test results from August of '99, which would appear to be the same as what you handed out.

MS. SODERBECK: Okay, and just for the record to be clear, the Frontera facility, is that a Duke-affiliated facility?

MR. RUBENSTEIN: It says so on the cover page. I don't know whether Duke still owns that facility or not, I'm not certain.

MS. SODERBECK: Okay, that's fine. Could I get these marked for identification for

exhibits?

PRESIDING MEMBER MOORE: All right.

MR. HARRIS: Can I ask, I didn't object to the question because it was related to whether he looked at these studies, --

PRESIDING MEMBER MOORE: Yeah, I'm not sure that that's really the right step at this point. You've asked whether or not he was familiar with these. He's answered the question, but we haven't asked him to analyze it.

So, I think --

MS. SODERBECK: Okay, that's fine.

PRESIDING MEMBER MOORE: -- let's --

HEARING OFFICER FAY: Do you have more questions on these documents?

MS. SODERBECK: Not for Mr. Rubenstein, no.

HEARING OFFICER FAY: Okay, I think they've been adequately identified then for the record. All right.

MR. HARRIS: Can I ask about the qualifier? Do I need to have Eric take a look at the documents?

MS. SODERBECK: No. I may go back to them for rebuttal, but you get me on the stand,

but --

MR. HARRIS: Okay.

MS. SODERBECK: Excuse me, when Ms. Churney gets me on the stand.

MR. HARRIS: Okay, thank you, appreciate the clarification.

MS. SODERBECK: To try and wrap up this issue of your proposed methodology that you discuss in that paper, has any test been performed that compares identical samples taken from the same GE Frame 7 100 megawatt turbine at the same time under the exact same conditions, and then compare the 201, 202 methodology and your 201A method 8 methodology?

MR. RUBENSTEIN: Two weeks ago I would have had to say I'm not aware of any such tests. But the answer is yes, there has been a test like that making the kind of comparison. I did not mention that in my testimony and I'm not at liberty to discuss the results. However, the results will be presented to Air Waste Management Conference this coming June.

I can say in general terms that method that I'm recommending and the new method that's being cosponsored by the Energy Commission showed

very good agreement, and a variation of method 202 showed reasonably good agreement with those methods, as well.

MS. SODERBECK: All right, I guess I have to leave it at that.

Okay, I guess the other issue I'd like to turn to now is on pages 124 and 125 of your testimony.

MR. RUBENSTEIN: Okay, I have that in front of me.

MS. SODERBECK: And I'm referring specifically to your discussion of duct firing.

MR. RUBENSTEIN: Okay.

MS. SODERBECK: Let me see if I can summarize this correctly.

You, in essence, disagree with CAPE's assertion that the PM emissions from duct firing will be disproportionately dirtier than the emissions from the baseload operations. In essence that's your position?

MR. RUBENSTEIN: That's correct.

MS. SODERBECK: And you refer to incremental calculation effects on page 125.

MR. RUBENSTEIN: That's correct.

MS. SODERBECK: And these are based on a

per unit of gas burned, is that correct?

MR. RUBENSTEIN: That's correct.

MS. SODERBECK: What is the effect if you analyze this based on emissions produced from duct firing per megawatt with capacity with 168 megawatts of duct firing at full throttle versus the 1032 megawatts of baseload without duct firing?

MR. HARRIS: I'm not sure this is part of his testimony, so I would object on that basis.

HEARING OFFICER FAY: Can you point to --

MS. SODERBECK: I'm asking --

HEARING OFFICER FAY: -- where in his --

MS. SODERBECK: Well, he -- he analyzed it on this per unit of gas burned. I guess I'm asking him did you do an analysis based on a per megawatt at basically full load with and without duct firing.

HEARING OFFICER FAY: We'll allow the question.

MR. RUBENSTEIN: I'm sorry, I'm hesitating because I'm thinking through all the different data responses we've prepared, and trying to think if we formulated an answer in that

way. I don't believe so. I don't think the question was ever asked in that way.

I can say that the numbers would be different, they would not be dramatically different, and I'd reach the same conclusion.

The reason is that the amount of particulates, in my opinion, that are actually formed during combustion are largely a function of the amount of fuel, and to a lesser extent of the amount of air that's going through. And consequently I wouldn't expect to see any significant different on a pounds per megawatt hour basis between the fired and unfired cases as compared with presenting it here on a pounds per million Btu basis.

Certainly nothing I would characterize as disproportionate.

MS. SODERBECK: Okay. Let me direct you to exhibit 34, Duke's data request response number 6, in which Duke indicates the elimination of duct firing would reduce --

MR. HARRIS: Pam, can you give just a minute to find the documents?

MS. SODERBECK: Oh, sure, I'm sorry.

MR. HARRIS: Thanks.

MR. RUBENSTEIN: This is the response to CAPE data request 6, right?

MS. SODERBECK: Yes.

MR. RUBENSTEIN: Okay, I have that in front of me.

MS. SODERBECK: First let me ask you, were you involved in the preparation of the responses?

MR. RUBENSTEIN: Yes, I was.

MS. SODERBECK: And it's on page -- I won't use -- I won't give page numbers because they vary during these exhibits.

It appears to me that you're saying on an annual basis the PM emissions from duct firing account for 33.6 tons per year of the aggregate 203.2 PM emissions, is that correct?

MR. RUBENSTEIN: No. Actually, that data request asked for and estimate of the increased PM10 emissions attributable to any of the emission control devices. Not due to duct firing.

And the response I gave was that in my estimation the combination of the SCR system and oxidation catalyst contributes approximately two pounds an hour to the allowable PM10 emission

limits. And on an annual basis that was 33.6 tons per year.

I'm afraid this question didn't have anything to do with --

MS. SODERBECK: You're right, I apologize. Do you know what the total emissions of 203.2, the total emissions are if duct firing is eliminated? Or if it's there and never used?

MR. RUBENSTEIN: Yes, that would be 13.8 tons per year out of the 203.2 tons per year.

MS. SODERBECK: 13.8?

MR. RUBENSTEIN: Correct.

MS. SODERBECK: Okay.

MR. RUBENSTEIN: And the way that's derived is it's 2.3 pounds per hour times 4000 hours per year times four units divided by 2000 pounds. I'll make sure, do the math again right here.

Good thing I checked, 18.4 tons per year, sorry.

MS. SODERBECK: Okay. Do you recall at the staff's June 2001 workshop on air quality, I believe you said at that time that modeling -- your air quality modeling could be run with various stack heights as functions?

MR. RUBENSTEIN: I don't recall saying that, but I may well have. That is correct, we could do it with different stack height assumptions.

MS. SODERBECK: Has that been done?

MR. RUBENSTEIN: Yes.

MS. SODERBECK: Is that data available somewhere in these documents and I just haven't found it?

MR. RUBENSTEIN: There is an analysis that is in the record related to cooling system, I can't recall if it's cooling system alternatives now, or visual treatment, the HRSG enclosures. But for one of those two analyses we had concluded that the stack height would need to be higher than 145 feet.

If you want I can check for a minute and tell you exactly which analysis that was. There was also a second analysis that we did after that workshop last summer that looked at a hypothetical stack height of 200 feet which has not been introduced into the record.

MS. SODERBECK: If the stacks were at 200 -- you said 200 feet --

MR. RUBENSTEIN: Yes.

MS. SODERBECK: How does that change the concentrations that were modeled on your ISC model for Morro Bay?

MR. RUBENSTEIN: The maximum concentrations at any location, including Morro Rock, and I'm speaking specifically of PM10, because I assume that's the context of your question?

MS. SODERBECK: Yes, yes, it is.

MR. RUBENSTEIN: Those concentrations, the maximum concentrations, including the Rock, would drop by maybe 10 or 15 percent. The maximum concentrations at locations away from the Rock would drop by roughly that percentage. And under some meteorological conditions the concentrations, and at some locations in the community, the concentrations would actually increase if the stack height was raised from 145 feet to 200 feet.

At most locations it would decrease, but there would be some locations where it would increase. So it's kind of a mixed set of results.

MS. SODERBECK: And do you know off the top of your head where that worst case would be in terms of it increasing?

MR. RUBENSTEIN: I don't have a complete

set of the results in front of me, but the data suggests that at the Hillview tract, using meteorology from 1996, just that one year, there would be an increase in PM10 if the stack height was increased.

And I just mention that by way of example. All of these numbers are very small; in my opinion all of these numbers are insignificant. But, I just wanted to indicate that raising the stack height in this type of terrain with this type of meteorology does not insure that concentrations get lower at all locations under all weather conditions.

MS. SODERBECK: Comparing the existing 450 foot stacks and the new plant's 145 foot stacks, will the concentrations from the new lower stacks principally be higher, I don't want to say always, but will it generally be higher than under the worst case conditions than exist now with the 450 foot stacks?

MR. RUBENSTEIN: Yes, both sets of numbers will, in my opinion, be insignificant and very low. But in most cases the concentrations of PM10 will be higher with the new stacks and the units as compared to the existing units, based

again on the modeling results with all their conservatisms built in.

MS. SODERBECK: All right. Is it feasible to substitute, for example, another smaller gas turbine in lieu of the large duct burner that's proposed for the 168 megawatt peaker portion of the plant?

MR. HARRIS: I'd like to object at this point. We're beyond Mr. Rubenstein's direct testimony, and we've been there for quite awhile. I think I'd like to get us back onto his testimony so I'd object to that as being outside of his direct testimony.

HEARING OFFICER FAY: Counsel, unless you can tie that into his direct testimony I'm going to sustain the objection.

MS. SODERBECK: Well, I'd like to ask Mr. Rubenstein whether he was involved in the recommendation of the equipment for the new plant in connection with its air quality impacts.

HEARING OFFICER FAY: Well, why don't you ask that.

MS. SODERBECK: Would you like me to repeat that?

MR. RUBENSTEIN: No, I heard the

question. I was involved in the recommendations regarding the emission control equipment. I was not involved in the recommendation regarding whether there should be duct firing or how large the duct firing should be.

MS. SODERBECK: Okay. Exhibit 52, let's take a second to get there -- CAPE's data request 290 and Duke's response, were you involved in the preparation of that response at all? It's under air quality/project description/engineering.

MR. RUBENSTEIN: No, I was not, and that's not identified as one of the responses I prepared in my testimony. Number 290, as I'm reading it, is basically an engineering question. And I did not prepare that response.

MS. SODERBECK: All right, fair enough. On page 130 of your prepared testimony --

MR. RUBENSTEIN: I have that in front of me.

MS. SODERBECK: -- you note that the use of a three-year period prior to the application date for the baseline for the APCD purposes -- see if I can direct you to which paragraph, page that is.

MR. RUBENSTEIN: That would be the first

bullet under the heading CEQA baseline.

MS. SODERBECK: Yes, that's what I'm referring to. An earlier application for modernization of the plant had been filed by Duke in 1999, correct?

MR. RUBENSTEIN: Yes.

MS. SODERBECK: And did you participate in the air quality portion of that application?

MR. RUBENSTEIN: Yes, I did.

MS. SODERBECK: When that was withdrawn did you continue to work on the new application air quality portions?

MR. HARRIS: Again, I'm going to object to the discussion being outside the scope of his direct testimony.

HEARING OFFICER FAY: Counsel, where is this going?

MS. SODERBECK: I'm just trying to see whether it was Gary that was continuously involved in the air quality aspects of this, or whether it was anybody else that might have been involved on Duke's behalf.

HEARING OFFICER FAY: Towards what end? We're dealing with this project, not the last -- not the withdrawn project.

MS. SODERBECK: I understand that. I'm trying to get to if there was anybody besides Sierra Research that worked on the air quality for the -- between the withdrawal of the last application and the new application, or the work was all done by Gary.

PRESIDING MEMBER MOORE: Ms. Soderbeck, that's not what's before us. And so what we do have is his direct testimony, and I think I need to bring you back to that to focus.

MS. SODERBECK: Okay. I also have a few questions for Dr. Walther on the public health issues. Just a couple questions on acrolein.

The bulk of the toxics in terms of the aggregate toxics from the project that you looked at in your public health assessment, that came from acrolein, is that correct?

DR. WALTHER: On the chronic, noncarcinogenic and the acute noncarcinogenic potential effects, acrolein contributed to most, even to the insignificant results.

MS. SODERBECK: Okay, that's what I was trying to get to. Does the acrolein emission rates change whether there is duct firing or not duct firing? Is the emission rate the same?

MR. HARRIS: On that, my witnesses are as a panel, it may be more appropriate for Mr. Rubenstein to answer that --

MS. SODERBECK: Oh, sure, that's fine, whichever.

MR. RUBENSTEIN: I haven't seen any data to suggest that the acrolein emission rate during duct firing expressed on a pounds per million Btu basis, the actual rate of emissions, is any different with or without duct firing.

It might be, acrolein is a very difficult compound to measure because the concentrations are just so low and the compound is not very stable.

So there's not a lot of data but I haven't -- and so the answer is I haven't seen anything to indicate that duct firing would be higher. From an engineering perspective and a combustion perspective, I have no reason for believing that it would be any higher. I would expect it to be exactly the same.

In the case of this particular project, which uses an oxidation catalyst, I think that any differences between the turbine and duct burner emission rates of acrolein would be overwhelmed by

the reduction in acrolein associated with the oxidation catalyst, because it's a very reactive compound.

So I don't anticipate that there would be, if I can anticipate where you were going with this, I don't anticipate there'd be any significant change in the acrolein emission rate or the risk assessment if duct firing were eliminated, except by the proportionate amount associated with the reduction in fuel consumption.

MS. SODERBECK: Okay. The tests at Pasadena, Texas, which I believe are the ones that were used to establish the emission rate, or the emission factor used for acrolein in this case. Let me ask first, were those the tests that were used to establish the factor? As opposed to 430 guidelines?

Again, I'm talking about acrolein.

MR. RUBENSTEIN: I understand. I was puzzled by the reference to 430 guidelines. You're referring to ARB method 430?

MS. SODERBECK: Yes.

MR. RUBENSTEIN: No, there were no ARB method 430 results that were used. What I'm uncertain of is during the last 12 to 18 months

EPA has published some updated emission factors for acrolein, and I need to confirm whether for this particular project we used the Pasadena test results. I know we did that initially. Or whether we used the updated EPA factors, which are generally fairly close. They're not that different.

But if you want I can research the answer to that and get back to you after a break. Or it will take me a minute or two to figure out exactly which factors we used.

PRESIDING MEMBER MOORE: Why don't you come back after the break with that --

MS. SODERBECK: That's fine. In fact, where I was headed was to see whether there had been any further testing or any updates from what those initial Pasadena results showed.

PRESIDING MEMBER MOORE: The answer appears to be that there has.

MR. RUBENSTEIN: Yeah, they're not more recent results. It's a more recent analysis of older results. The Pasadena results are the most recent ones I'm aware of.

MS. SODERBECK: All right, just one quick clarification on those results. Those are

on a Westinghouse turbine, and those were without oxidation catalyst, is that correct? Or with?

MR. RUBENSTEIN: The tests in Pasadena, Texas for acrolein were performed on a Westinghouse turbine which did not include an oxidation catalyst, and consequently for both reasons of the different turbine and the difference in the catalytic controls I would expect those numbers to be very conservatively high compared to what we will see at Morro Bay.

MS. SODERBECK: Are there cumulative effects of acute exposures over time?

DR. WALTHER: What was the, I think it was the third word you used, you said commutative?

MS. SODERBECK: Cumulative.

DR. WALTHER: Cumulative, okay. Are there cumulative effects. Acrolein has both a chronic and an acute potential health risk. And so the referenced exposure levels are on both the short-term one hour and long-term annual basis for the purposes of calculations.

MS. SODERBECK: Okay, let me try and get at it another way. I believe for formaldehyde, for example, which is somewhat in the same family as the acrolein, that an acute exposure can

actually sensitize somebody who would then remain sensitive to even slight increases in formaldehyde exposure.

And I'm wondering whether the same thing happens with acrolein.

DR. WALTHER: As far as sensitizing goes, that's not dealt with exclusively in the analysis. And so the analysis is constrained to simply look at these reference exposure levels regardless of the detailed toxicological evidence that's underneath.

The health authorities, mostly at the federal level, but also at the California level, then choose these reference exposure levels, keeping in mind sensitization and various impacts like that.

MS. SODERBECK: Okay, and then one last question on that. If I understand the REL assessment process, it does not -- does it take into account any existing ambient or background concentrations of any of these toxics?

DR. WALTHER: It's not derived on a basis that would do so. The whole basis of reference exposure levels is to especially go to toxicological kind of clinical tests, and similar

information on laboratory animals. And to determine at what concentration one would expect to see either chronic long-term effects or acute short-term effects.

So that particular question of what already exists is only in the work implicitly. Because when you perform a test, whether it be on a human, a rat or a rabbit, that animal has already been breathing whatever the ambient is at the laboratory.

And so it's implicitly included in the results, but not explicitly tested, that I know of.

MS. SODERBECK: Thank you. Looking at Dr. Walther's testimony on page 140. The penultimate paragraph with the bullets. If my page numbering is the same as yours.

DR. WALTHER: I see three paragraphs with bullets, but keep going.

MS. SODERBECK: The next-to-last paragraph on the page.

DR. WALTHER: Okay.

MS. SODERBECK: Where it starts: Responses to CAPE data requests?

DR. WALTHER: Go ahead.

MS. SODERBECK: The third bullet there, are you -- if I'm reading this correctly you're agreeing that various combinations of the stack height, exit velocity and exit temperature will lead to varying groundlevel ambient concentrations, depending what combination of those factors you choose?

DR. WALTHER: Go ahead, they -- definitely each of the combinations that are possible will lead to slightly different numbers, right.

MS. SODERBECK: Okay, I just wanted to confirm that I was understanding that you were agreeing that that was the case, that you can vary these factors and you will get different groundlevel concentrations.

DR. WALTHER: That is correct.

MS. SODERBECK: Okay. I think we're finally done with these witnesses.

MR. RUBENSTEIN: I have the answer to Ms. Soderbeck's question.

MS. SODERBECK: Without taking a break.

MR. RUBENSTEIN: Without taking a break. The answer is is that neither of those sources is what was used.

If you refer to exhibit 5 which is a letter dated November 1, 2000, from Sierra Research to the Air Pollution Control District, on the second page it discusses the acrolein emission factor, and indicates that it comes from the California Air Resources Board CATEF database, CATEF, C-A-T-E-F, stands for California Air Toxics Emission Factors. And that's where that emission factor came from.

MS. SODERBECK: Thank you.

HEARING OFFICER FAY: Mr. Harris, any redirect?

MR. HARRIS: None.

HEARING OFFICER FAY: All right, at this time we're going to take a ten-minute break.

(Brief recess.)

HEARING OFFICER FAY: We've concluded with the presentation of the applicant's evidence on air quality and public health. And the cross-examination by all parties of their panel.

And now we'll move to the Energy Commission Staff for their presentation on air quality and public health. Ms. Holmes.

MS. HOLMES: Thank you. We have three staff witnesses and two witnesses from the

District. They all need to be sworn.

HEARING OFFICER FAY: Will all the witnesses please stand and be sworn.

Whereupon,

MICHAEL RINGER, MAGDY BADR, OBED ODOEMELAM, GARY WILLEY, and STEPHEN ZIEMER

were called as witnesses herein, and after first having been duly sworn, were examined and testified as follows:

MS. HOLMES: Thank you. I'll take this one-by-one, I think, starting with the staff witnesses.

DIRECT EXAMINATION

BY MS. HOLMES:

Q Mr. Badr, did you prepare the air quality testimony in exhibit 115?

MR. BADR: Yes, I did.

MS. HOLMES: And the errata in air quality that's contained in exhibit 116?

MR. BADR: Yes.

MS. HOLMES: And was a statement of your qualifications included in exhibit 115?

MR. BADR: Yes.

MS. HOLMES: And Dr. Odoemelam, did you

prepare the public health testimony that is contained in exhibit 115?

DR. ODOEMELAM: Yes, I did.

MS. HOLMES: And is a statement of your qualifications included in exhibit 115?

DR. ODOEMELAM: Yes, it is.

MS. HOLMES: And I'll ask the two of you this together. Are the facts contained in those testimonies true and correct to the best of your knowledge?

DR. ODOEMELAM: Yes, they are.

MR. BADR: Yes, they are.

MS. HOLMES: And do the opinions contained in that testimony reflect your best professional judgment?

DR. ODOEMELAM: Yes, they are.

MR. BADR: Yes.

MS. HOLMES: And staff also has Mr. Mike Ringer testifying here. I'd like him -- or available to testify. I'd like him to state what his qualifications and his responsibilities at the Energy Commission are.

MR. RINGER: I currently supervise the air quality and public health unit. I've been in the Siting Division, participating in siting

activities since 1987, in the area of waste management and public health. I've been at the Energy Commission since 1977.

MS. HOLMES: Thank you. Turning to the District, Mr. Willey, are you responsible for preparation of the final determination of compliance?

MR. WILLEY: Yes, I am.

MS. HOLMES: And could you please briefly state what your qualifications and your responsibilities at the District are?

MR. WILLEY: I have a bachelors in science degree from CalPoly, mechanical engineering, in 1988. I've been an air quality engineer or practicing air quality engineering for 13 and a half years. The last 11 and a half have been with the District.

I'm responsible for permitting new projects. And in this case I am the lead for the Duke Energy determination of compliance.

MS. HOLMES: Thank you. Next is Mr. Steve Ziemer, who performed some of the modeling on behalf of the District.

Mr. Ziemer, could you please identify for the record what your qualifications are and

what your responsibilities were with respect to work on this project?

MR. ZIEMER: I'm an air quality specialist with SAIC. I have a master of science degree in environmental engineering. And SAIC was essentially hired by the District to review all of the air quality analysis submitted by Duke.

In particular they wanted me to look at the modeling, all of the modeling that was done by Duke and verify that modeling.

MS. HOLMES: And did you conduct your own modeling as part of that analysis?

MR. ZIEMER: Yes, I did. I independently ran the same types of models using our own inputs and verified the results that Duke had obtained.

MS. HOLMES: Thank you. Mr. Hearing Officer, there's been a good deal of discussion about some modeling results that are contained in CAPE's testimony in attachment A. They're part of the effects of particulate air pollution on children study.

I think it might be appropriate to identify that testimony as an exhibit so that we can reference the SAIC modeling results that are

included.

Specifically I'm referring to three documents, or three pages. The first is --

HEARING OFFICER FAY: Before you go into that, did you mean to identify as separate exhibits those attachments?

MS. HOLMES: That's up to CAPE. I just need some sort of an identification so that we can refer to three pages that are within their testimony that were prepared, in fact, by SAIC, in which Mr. Ziemer is prepared today to testify about.

MS. CHURNEY: I think it's already been marked as exhibit 139, so it would be part of that.

MS. HOLMES: Thank you. And just for informational purposes, what we're going to be looking at or referring to at the end of the children's report is a table that's entitled, maximum impact concentrations in ambient air quality standards.

And on the following two pages are, I guess you'd call them charts or diagrams. One is entitled, existing facility and proposed facility PM10 24-hour impacts. And the other is

identified, existing facility and proposed facility PM10 annual impacts.

Just so that everybody knows what we're talking about today.

I'd like to start with the District. Mr. Willey, could you please summarize the process and the conclusions that you reached in the DOC?

MR. WILLEY: Yes, Gary Willey with the Air District. First part of the process that we do is we review it for adequacy at the initial phase of the project, and we did review that and ask for a number of clarifications of additional information.

We then review for the control technology requirements to insure that they're meeting their best available control requirement levels.

We review the emission levels and calculations to insure that they're representative of what the project is proposed. We then review the ground level air quality modeling impacts, and in this case we additionally hired SAIC to also review that for us.

We insure that the offset requirements that are required for regional pollution effects

were met. We looked at the toxic emission impacts and the control requirements for those.

We then drafted a preliminary determination of compliance based upon our review. This was publicly noticed. We received comments from the federal EPA, the California Energy Commission, the public, staff and the applicant.

And from this process we issued the final determination of compliance. And with the proposed conditions that we issued that final determination of compliance it resulted in best available control technology which are lower than the state-recommended levels for NOx and carbon monoxide, and are equivalent or lower for the other pollutants.

We found the offsets to be real, permanent, enforceable in surplus, and sufficient to meet the requirements of the law. We found that the plant will not contribute to violations of the air quality standards. And we found that the plant will meet all state, local and federal regulations that are delegated to the Air District.

MS. HOLMES: Thank you. Earlier this morning there was a discussion about some proposed

PM10 standards and proposed PM2.5 standards. Are you familiar with those?

MR. WILLEY: Yes.

MS. HOLMES: Can you very briefly explain what they are, what the standards are?

MR. WILLEY: I probably wouldn't be the best person to do that one. From what my understanding is there's going to be a new annual level of 20 mcg/cu meter for PM2.5.

MS. HOLMES: Is there also going to be a 24-hour PM10 standard -- PM2.5 -- I'm sorry --

MR. WILLEY: I'm not aware of a 24-hour PM2.5 standard. A PM10 standard I'm aware of. Okay, yes, they do have one. These are proposed standards -- well, actually Magdy is showing me the federal air quality standards which have not been put into effect yet, as well. I thought we were talking about the state standards, but, yes, I've seen these standards, as well.

MS. HOLMES: Is it your opinion if those standards were to be in effect, that this area would likely to be in attainment for those standards?

MR. WILLEY: Yes, it is.

MS. HOLMES: I'd like to turn to a

discussion of some of the actual PM10 levels that have been measured in the area. It's my understanding that there has been one violation in the past several years. That was in 1977, is that correct?

MR. WILLEY: It's not '77 --

MS. HOLMES: '97, excuse me.

MR. WILLEY: The exact number of violations I'd have to look up. I think that's the only one that has occurred. That was an outlier, pretty much a regional effect that we had elevated levels throughout the whole County.

MS. HOLMES: So the time that there was a violation in 1997 in Morro Bay there were similarly violations in other parts of the Air District?

MR. WILLEY: Yes.

MS. HOLMES: And is that a trend that you would typically expect to see, that is that when PM10 levels are elevated in this area, they are similarly elevated in other areas of the County?

MR. WILLEY: Yes, and that's substantiated by the data we've collected, that when Morro Bay has an air quality problem the rest

of the area does, too. Morro Bay exhibits the cleanest air quality of any of the monitoring stations that we have.

MS. HOLMES: And is there a general trend that the District has identified with respect to PM10 levels? Is there a trend that's going downwards or upwards?

MR. WILLEY: Yeah, it's a general trend downwards.

MS. HOLMES: Thank you.

MR. WILLEY: -- standard.

MS. HOLMES: Thank you. There was a discussion about, I believe it was last night, about the ability of monitoring to pick up certain types of changes. Based on the information that you've seen in this case, is it your opinion that when the old plant ceases operation and the new plant begins to operate, that that change would be something that would be detectable by monitoring?

MR. WILLEY: No. From the indications of the levels that we're expected to see, and the background levels that we have, we're not going to be able to tell the difference if the turn on the plant or turn it off. At least we're not going to be able to measure it, you know, there's not going

to be an indication of whether the plant's running.

MS. HOLMES: Thank you. Finally, I have a question for you about the Energy Commission's proposed condition of certification AQC-3, are you familiar with that condition?

MR. WILLEY: Yes, I am.

MS. HOLMES: And do you support that condition?

MR. WILLEY: Yes, we support that condition. There are a lot of factors involved in construction that aren't -- they're more variable. Equipment can be different; people can operate it differently. And we would fully support having a mobile, being able to mobile, move it around.

In addition, we feel that we can use that to move around other parts of the City after construction has occurred. And that way we would also take care of our other condition as well, for offsite monitoring.

MS. HOLMES: So you have two conditions, or there are two conditions with respect to monitoring. One is for operational purposes and one is for construction purposes?

MR. WILLEY: Correct.

MS. HOLMES: And now you're talking about perhaps using the same monitor to meet AQC-3 that would be used to meet the condition that requires operational monitoring?

MR. WILLEY: Yes.

MS. HOLMES: Now, I'd like to turn a little bit to Mr. Ziemer and the modeling. There was some discussion last night which you had the bad fortune or good fortune, depending upon how you look at it, to miss.

But I'd like you to briefly discuss the modeling that you performed with respect to this project, with the particular emphasis on the types of conservative factors that are incorporated into the modeling.

MR. ZIEMER: Okay, well, what we did as part of our modeling analysis, was to look at all of the variables that go into the modeling process, to verify what Duke had used, and to independently verify those inputs, the input data to the model, how they selected exactly how the model would be run. There's various options that can be turned on or off.

Did they, in fact, use the options that were in compliance with the regulatory guidelines.

The general selection of the methodology that they used; how they placed their receptors. Was the receptor field adequate; did the receptor field actually capture the maximum impact point. What met data did they use; and how they set up their sources for the actual modeling runs.

We took into account all those factors and then built our own model runs, and independently ran the model. And what we did find was that our results compared almost exactly with what Duke had shown in their application.

There was some slight variations just because of slight difference here and there in what we assumed and they assumed, but nothing significant.

Now, I do want to talk about some of the conservativeness that went into the modeling and how the model works. And there's a number of areas, the first being the actual selection of the emission rates that get modeled.

What we did was we were modeling not only the existing facility, but we were modeling the proposed facility, as well.

The emissions for the existing facility were selected based on actual historical fuel use

results. So what that means in terms of annual emissions is that you have actual conditions for a full year at a time. There was actually an average over a two- to three-year period that was selected to give actual emissions from the existing facility.

In comparison, when you look at emissions for the proposed facility, since it hasn't operated yet, what you do is you look at what's the very max that it could possibly generate. You look at the permit conditions, what's the maximum that it's allowed to operate in terms of hours and load and emissions. And that's what gets modeled for the existing facility.

So that right away you have a big difference in how the emissions are looked at between the two runs.

For the existing facility, using actual data, if you really wanted to compare exactly to what we did with the proposed facility you would really use what's the maximum that this facility could operate under its permit conditions. And those emissions would undoubtedly be a lot higher than what we looked at.

Similarly or conversely for the proposed

facility, if you took a snapshot sometime in the future and looked back at the fuel use records for the new facility, I'm sure you would find that we've used emissions that are much higher than the averages that you'll see in the future.

So that's one area of conservativeness in looking at how the proposed facility is modeled.

Another area is in terms of the conditions that we looked at for the new facility, how it's being operated. We considered not only full load, 100 percent operation of the units, but we look at conditions like startup that can generate higher NOx, CO or VOC emissions. And then duct burning. That's potential, so we add that on.

In summary, the conditions for the annual were based, for the existing facility, were based on historical use. For the proposed, it looked at 100 hours of startup, 4000 hours with the duct burners on, and 4000 hours without the duct burners. That's a total of 8400 hours operation during the year. There's actually 8760 hours during a year, but there's obviously going to be some downtime associated with the units.

For short term, for the existing facility, again it was based on maximum hourly fuel use rates. For the proposed facility it was based on maximum firing rates for the one-hour case, and a maximum expected daily fuel consumption for the 24-hour case.

The hourly emission rates for the proposed facility assumed that two of the turbines would be in the startup mode and two of the turbines would be operating at full load with the duct firing.

For the daily emission rates, the assumption for NOx, CO and VOC was that there would be 16 hours at full load with duct firing; four hours in the startup mode; and four hours at full load without the duct firing.

Startup doesn't really affect SO2 and PM10, so for those two pollutants the assumption was that there would be 16 hours with the duct firing and eight hours without.

My understanding is that these are the worst case conditions that can be expected at the facility.

What we saw is that even under the worst case conditions the proposed facility, the

modeling short-term emissions from the existing facility would actually be higher in every case.

(Pause.)

MR. ZIEMER: What I want to get at is that for annual emissions for the existing facility are higher than for the proposed facility in almost every case. The emissions of PM10 are higher for the new facility as well as SO2 would be slightly higher.

And for the short-term emission conditions, the proposed facility emissions would be lower in every case than what is presently occurring from the existing facility.

Another area of conservativeness in the model relates to the use of a full year of met data. I'll confine my remarks to the short-term PM case, because that's the only place that we saw any kind of violation of the standard.

The 24-hour PM10 impact, when added to that high background concentration that Gary referred to, did show an exceedance of the standard. But the exceedance was caused by background, alone. And that background concentration was a single day that was greater than 50, that's the only occurrence in five years

of monitoring. And it did occur in 1997.

The meteorological data, the way it's put into the model is that there's 8760 hours of met conditions, including things like the wind speed, wind direction, the temperature and a measure of the stability of the atmosphere. Each of those is represented for each of those 8760 hours in the year.

The model is then run, and if we're looking at like a one-hour average, you then have 8760 results for every single receptor that you look at. But not only did we use just one year of met data, but three years were used. So you actually have for every single receptor over 26,000 results.

And from those 26,000 results the absolute highest value is picked as your maximum impact.

Similarly with the 24-hour case, you have 365 different 24-hour periods in a year; and with three years of data you have over 1000 different results for every receptor from which the highest value is selected.

So not only are you using worst case conditions as input to the model, but then you're

then combining it with all of these various met conditions so that you ultimately end up selecting a combination that is both the worst case meteorology data and the worst case emissions data. You compound the over-prediction in that way compared to what is generally going to be reality.

Another factor, when you look at PM10 emission concentrations predicted by the model is that there's some conservativeness inherent in the model, itself, in that the model doesn't allow for any deposition. That is particles that would fall out as the plume disperses downwind.

The model conservatively assumes that all of the particles are carried along at every point that you look at. And that's just a fact that's true about models in general. They're designed to be conservative. They're designed to over-predict.

The ISC-ST model that was used in this case, in particular, has been the subject of a number of studies, what they call validation studies, to see how the results of the model compared to actual measured conditions.

Gary referred to a study that was done

in Hawaii where he saw factors greater than 5 over-prediction. I've seen a variety of results from studies like this for the ISC model. Some of the results show that there's under-prediction at times, but by far the vast majority of the results show that the model does over predict, sometimes by very high factors. The general consensus is, though, that the model over predicts by at least a factor of 2.

So what that means is that with this combination of factors, the emission rates, the met conditions, the model, itself, and then the values selected being the very highest value at every receptor in your whole grid over numerous meteorological data points, it means that this value that you're looking at is no doubt going to be much higher than you're likely to see in reality.

MS. HOLMES: Would it be fair, then, to conclude that the modeling that was done does not reflect what the likely impact of the project on the Morro Bay community would be?

MR. ZIEMER: Yes. The modeling that's done is meant to be conservative, meant for permitting purposes, and not really meant to

reflect what you will see.

MS. HOLMES: Just one other question with respect to the modeling that you did for the existing facility. Is it correct that you looked at historical data, but then in addition to that you incorporated into the model NOx emission reductions that would be required at some point in the future?

MR. ZIEMER: Yes, for the NOx modeling, historical data was looked at to get a base emission rate for NOx emissions. But then knowing that there's upcoming regulation that will reduce the amount of NOx allowed from this facility, that reduction is a result of what they call BARCT, best available retrofit control technology, was applied before we did the modeling.

MS. HOLMES: And, Mr. Willey, could I ask you just a couple of questions about the baseline that Mr. Ziemer referred to?

MR. WILLEY: Can I say no?

(Laughter.)

MS. HOLMES: You can, but it wouldn't be a good idea.

You're generally familiar with the generation patterns here at Morro Bay, how much

the plant operates?

MR. WILLEY: Correct.

MS. HOLMES: And I believe you heard testimony that a baseline was used, I think it was 1998, 1999 and part of the year 2000, is that your understanding?

MR. WILLEY: That's correct.

MS. HOLMES: And do you have an opinion about what that baseline would be if all of 2000 and 2001 were included?

MR. WILLEY: If you just use all of 2000 and 2001 as a baseline, the numbers would be higher, substantially higher.

MS. HOLMES: And could you go back and look at the history of the plant and come up with baselines vary quite dramatically based on which three-year period you selected?

MR. WILLEY: Very much so. It can be dramatic if you go back into the '80s and areas where we burned fuel oil and were at high capacity rates.

MS. HOLMES: Thank you. I'd like to turn to the staff, and I think I'll direct my questions to Mr Ringer, since they're sort of broad overview questions. And if he needs to turn

to Dr. Odoemelam or Mr. Badr, he can do so.

First of all, Mr. Ringer, you're familiar with the fact that this proposed facility has a design life of 30 years. Would it change the staff's conclusions about the severity or the significance of impacts or the sufficiency of mitigation were the project to operate in excess of 30 years?

MR. RINGER: No, the conclusions would remain the same.

MS. HOLMES: Thank you. Staff concluded that there was a potential for an air quality and public health impact, and this is prior to the imposition of mitigation, is that correct?

MR. RINGER: That's correct.

MS. HOLMES: And when staff reviewed the modeling results did they conclude that the modeled impacts indicated the impact was, in fact, likely or unlikely?

MR. RINGER: We concluded that impacts were possible, although not likely. The reason that we required mitigation was due to the aforementioned violation in 1997 of the 24-hour PM standards. And although that was only one measure day violation in several years worth of data, our

position is that it would have some possibility of resulting in adverse health effects, although the actual occurrence would not be likely.

MS. HOLMES: Can you explain in a little bit more detail as to why you concluded that the modeled impacts are not likely to represent significant health impacts?

MR. RINGER: There's a number of different reasons. First of all, and we've just heard a discussion about the conservatism of the model, is that we don't expect such levels to actually occur during normal operation of the plant. Those are worst cases, modeled worst cases that we don't expect to see at all.

So that is very conservative, and strictly to bound a worst case, to provide an upper bound just so that we can see what that might be.

Secondly, even if the modeled numbers were to occur, we don't believe that they would be significant because of the existing clean air in Morro Bay and the review that's currently under way to look at proposed new state standards for particulate matter.

As I mentioned, the violation has only

been one measure day in the last several years, so the normal air quality in Morro Bay is well below the state standards on both an annual and a 24-hour basis.

There's now an effort underway at the state level from the California Air Resources Board and the Office of Environmental Health Hazard Assessment, to look at the particulate matter standards and see whether they need to be revised or not.

The report that has come out, the proposed standards would not change for the PM10 on a 24-hour basis; those would remain at 50 mcg. The annual standards would decrease from 30 to 20 mcg and there would be a new PM2.5 annual standard imposed.

Those studies that form the basis for the proposals include most of the studies, if not all of the studies that have been discussed, and that form the basis of CAPE's testimony.

The levels that we see, even the modeled levels, from the proposed operation of the new facility are very low. They're such that we consider them to be insignificant. Whether or not the modeled results would be an increase over the

modeled results of the operation of the existing facility, you have one insignificant number compared to another insignificant number, albeit one may be higher than the other.

There's a number of reasons why we don't think they would result in adverse health impacts. The first being that with the clean air in Morro Bay, Morro Bay would be within the proposed standards, if they were proposed at the levels that are being discussed now. And that is at the new 20 mcg on an annual basis for PM10.

At those low levels we don't expect that any health impacts, any significant health impacts would occur if just a very small addition were made, such that they would still be below the proposed standards.

For another reason we are requiring these emissions to be offset, so that's another reason that they wouldn't result in any health impacts. The emission reduction credits that have been provided or that would be provided would offset the emissions from the plant.

And finally, the emission reduction credits are coming from the same facility at the same location. From staff's viewpoint, that's the

most beneficial, is to have as close a correlation as possible in geographic location between the proposed offsets and the source of the new emissions.

MS. HOLMES: I'd like to go back for a moment to the proposed standards. You talked about reviewing a report that discussed those. Do you know whether or not those proposed standards include a margin of safety?

MR. RINGER: Yes. By state law the criteria of pollutant standards are to provide a margin of safety such that almost everybody in the population is covered. The only exception would be people who are very very sensitive individuals, even moreso than people who are already sick or the young or the elderly.

The standards are meant to protect people with preexisting, for instance, heart disease, lung disease, chronic diseases, things like that, such that if you were actually at the standard, there would still be a margin of safety for the general population.

MS. HOLMES: With respect to the studies that you referred to, do you know whether or not they address the correlation between PM10 exposure

and health impacts when the ambient levels of PM10 were lowered?

MR. RINGER: In general, the study that was relied on, there was two studies that were relied on most by the ARB and OEHHA, and one of them is known is the sick-city study. And they based their new standards primarily on mortality effects.

They believe that if you protect against mortality you're also protecting against illness. Because they didn't see any clear correlation between levels at which either mortality or morbidity occurred.

So they are taking the most extreme health effect, the one that would protect against all others. That being mortality.

The findings are, although within the range of the results that they looked at they could not determine a clear threshold. There was the association that became stronger at the higher levels. In other words, the higher the levels of ambient air the more health effects they tended to see and the stronger the association.

When you go down to the cities that happen to be the cleanest cities in the study,

those data points included what they called a no-value, which includes the -- that means the confidence interval includes that there would be no effects.

Although they didn't find effects, the uncertainty was including the data points that there may not be any health effects at those levels, were below the averages of the studies.

As an example, the two cleanest cities, Topeka, Kansas and Portage, Wisconsin, there was a difference of approximately 8 mcg/cu meter in the ambient air between those two cities. But there was no clear difference in mortality effects on a long-term basis.

That's not to say that there is no difference at all, but there is no clear statistical difference.

The air in Morro Bay, as we've heard, would be within the new standards of 20 mcg on an annual basis. Therefore, since that is the low end of these studies, we feel that adding the very small increment to a number that is below 20 would not result in any significant health effects; and, indeed, would not result in any increase in morbidity or mortality.

MS. HOLMES: Thank you. A few moments ago you referenced the fact that staff and the District both are recommending that mitigation in the form of emission reduction credits be provided.

Does staff have a preference for the type of mitigation that is typically provided for PM10 emissions?

MR. RINGER: We have two preferences. The first is that since particulate matter from combustion processes tend to be PM2.5 and smaller, even PM1, is that we prefer combustion processes to be the ERCs. We prefer that over something, for example, such as road paving, which does provide a range of particulate sizes, but skewed towards the larger end.

So the ERCs that are provided in this case are combustion-based, and therefore they would be matching the size range of the proposed facility.

Secondly, we prefer the offsets to be close in the sense that there can be a clear nexus between the effects of the proposed emissions and the effects of the emissions that would be reduced.

In other words, from an Air District standpoint, frequently since an air district's concern is their entire area, it may not be such that a district would disapprove of an emission reduction credit that may be within the district, but somewhat far afield from the proposed source.

In this case, we have credits that are on the same facility pretty much. So, from staff's viewpoint, that's preferable.

MS. HOLMES: So in other words if this project had come in with a proposal to obtain as offsets from somewhere else within the District that was downwind, staff's recommendation would have been, in fact, to provide the type of local offsets that are currently being proposed?

MR. RINGER: That's correct.

MS. HOLMES: Given that there are local offsets being provided, does staff believe that it's appropriate to model the reductions that are created by the emission reduction credits, and then superimpose those over the increases that would be created by the project to determine some sort of net effect?

MR. RINGER: Staff doesn't think that such modeling would be appropriate for a number of

reasons. As we have heard, the modeling for the new facility is quite conservative, and the modeling for the existing facility took into account historical fuel use. That's just one of he differences.

When we look to the location of offsets we try to make sure that there is some easily discernible nexus between what's offered and what's going to be emitted.

As you mentioned we wouldn't want to see anything downwind. We can do very very specific locational analyses because of the fact that the modeling that's done is always at a particular point in time, and it's always under certain met conditions. So it's fairly arbitrary as to what years are chosen and the conditions that the model is run. Again, those are meant to be conservative.

You can't ever have, because of the vagaries of met conditions always changing, geographical, topographical considerations, you'll never have a one-to-one correspondence between any two sources. The only time you'll get that is if you literally had an identical source being offered up for emission reduction credits for an

identical source that would be proposed. That's not going to happen ever under any circumstances.

Even in this case where you have a difference in stack heights there may be some slight difference, and that shows up in modeling.

But, the entire concept of ERCs is such that over time the air in the basin gets better within a district or within an air basin, gets better over time because as you put new emissions into the area you're taking out emissions at the same time.

And to the extent that there will never be an overlap, if you require there to be an exact match, you'll never get anything permitted, because the current system just isn't designed for that, nor could it actually be done with any degree of consistency.

MS. HOLMES: So if the Energy Commission had a policy that required the profile the emission reductions to match exactly the profile of the emissions created by a proposed project what would the effect of that been on any of the projects that the Commission has reviewed during the past 20 years?

MR. RINGER: Well, not only would you

not be able to license any power plants, I don't believe you'd be able to license anything at all.

The one other thing that I should mention, too, is not only is there not an overlap in the impacts, there's also not an overlap in the benefits.

So if you take a look at particular data points and you see where the new facility may be higher or lower than the old facility, under certain conditions, either could occur -- data point where the old facility had higher modeled impacts than the new facility, under certain conditions.

So, if you just look at those data points where there was differences, where the new facility shows higher impacts, you're ignoring the benefits that occur from shutting down a source that may provide benefits at different areas.

So, what you really want to do is to make sure that on an average basis over time that you have a match, as close a match as you can get, on a qualitative basis.

MS. HOLMES: Thank you. I have one question for Dr. Odoemelam. Were you in the room last night when Dr. Walther testified about the

portion of exhibit 139, which is CAPE's testimony, on - it was an analysis conducted by Mr. Hartman entitled, Morro Bay annual lifetime mortality risks from model concentration increases in ambient PM2.5?

DR. ODOEMELAM: Yes, I was here.

MS. HOLMES: And do you agree with the statement that it's inappropriate to use epidemiological studies to attempt to derive project-specific impacts?

DR. ODOEMELAM: Yes, I do.

MS. HOLMES: Okay, thank you. I'd like to move the exhibits, which I believe is the air quality and public health portions of exhibit 115 in the errata and 116, into evidence at this time. And make the witnesses available for cross-examination.

HEARING OFFICER FAY: And that includes the final DOC that appears in appendix A to the exhibit --

MS. HOLMES: The final DOC is included in exhibit 115.

HEARING OFFICER FAY: Okay. Is there objection? Hearing none, so moved.

The witnesses are now available for

cross-examination. Because the panel is so large, I'd ask that the witnesses please just briefly state their name before they start answering for the assistance of the court reporter.

Mr. Harris.

MR. HARRIS: Yes, actually just one question, or one series of questions for Mr. Willey, if we could.

CROSS-EXAMINATION

BY MR. HARRIS:

Q I want to go back to the discussion of AQC-3, and the monitoring for construction. I think the discussion, and I'm just really seeking a clarification here, in satisfying that condition, looking at paragraph 1, would you support a change that would be something to the effect that the monitoring station shall be a mobile monitoring station, which will be one of the permanent monitoring stations required by AQ-7?

It's a long question, do you want me to break it down?

MR. WILLEY: Yes, yes.

MR. HARRIS: Okay, AQ-7 is the condition that requires monitoring of the operation of the

facility, is that correct?

MR. WILLEY: Yes, it is.

MR. HARRIS: Okay, and I think the concept we were driving at here, because the question is would you support in satisfying AQC-3, would you support the use of a mobile monitor to satisfy that condition? That mobile monitor being one of the two permanent required by AQ-7?

MR. WILLEY: Yes, I would. We would support that. We discussed that previous to this.

MR. HARRIS: Sorry it took me so long to get there, but just wanted that clarification.

No further questions, thank you. I appreciate the other witnesses being available.

HEARING OFFICER FAY: Thank you, Mr. Harris. Does the City have any?

MR. SCHULTZ: Yes, we just have one question.

CROSS-EXAMINATION

BY MR. SCHULTZ:

Q It's along the same line as the testimony question we had yesterday for Duke's experts. Throughout the conditions of certification there are various plans that are listed, reports and tests that need to be

performed.

And the question is do you have any issue, have any problems with the City reviewing those reports, plans and tests, either for informational purposes or for review and comment?

MR. BADR: I don't have any objection to that.

MR. SCHULTZ: No further questions.

HEARING OFFICER FAY: All right. Coastal Alliance?

MS. CHURNEY: Yes.

CROSS-EXAMINATION

BY MS. CHURNEY:

Q Mr. Ringer, did staff look at any mitigation measures other than emission reduction credits?

MR. RINGER: I think I didn't look at those personally, so possible Mr. Badr can address that.

MR. BADR: No, we have not. We prefer the ERCs over any other mitigation measures like paving roads or any other measures, because they illustrate exactly what the power plant would produce, and the products coming out from that power plant compared to what it was in the ERCs,

so there's almost a match between the quality of the emissions and the quality of the ERCs.

MS. CHURNEY: Staff separately analyzed the construction impacts from the ongoing operations, the air impacts, is that correct?

MR. BADR: Yes.

MS. CHURNEY: And as to the construction impacts did staff require Duke to remodel those impacts from what was originally proposed in the AFC?

MR. BADR: Yes, we required them to remodel them again.

MS. CHURNEY: And what did those remodeled results show?

MR. BADR: They show a significant reduction in NOx basically. That's the most one can, I remember exactly. I believe the original modeling was very close to the standard. After that it came down to 61 percent.

MS. CHURNEY: Are you confident there will be no significant adverse PM impacts beyond the borders of the plant site from construction, given the conditions that you're proposing?

MR. BADR: I'm not certain, that's why the conditions are there to guarantee that this is

what will happen. And condition AQC-3, we're really monitor that, that's the requirement, that's the reason for the requirement to monitor the activities. And if there is any additional mitigation needed, definitely it should be provided to the District.

MS. CHURNEY: Well, as currently provided, is staff requiring the use of all feasible mitigation devices such as soot filters for diesel engines used in auguring, for example?

MR. BADR: I believe that's in condition AQC-1 and 2. Yes.

MS. CHURNEY: And are there any other mitigation devices that will be included?

MR. BADR: Well, as the conditions AQC-1 and 2 will state that during, for example, the ideal for the engines running or the earth equipment engines, that they shouldn't be for over certain amount of time, and should be shut down. The maintenance of this equipment.

Also, the watering of the disturbed area to control dust. These are basically typical construction conditions we require.

MS. CHURNEY: And we have heard that the staff performed its own modeling. And I don't

know whether this question is more appropriately directed to Mr. Ziemer, but did the modeling take into account the diesel engines may be running from 7:00 a.m. to 7:00 p.m. for auguring during construction, for example?

MS. HOLMES: I'd like a clarification of which modeling results CAPE counsel is referring to so that we can look at it.

MS. CHURNEY: The construction modeling.

MS. HOLMES: Are you talking about the construction modeling that's in the FSA or some other construction modeling?

MS. CHURNEY: Yes. The FSA.

MR. BADR: We assumed that they are running roughly eight hours a day of operation.

MS. CHURNEY: And that's different -- I mean that's not from 7:00 a.m. to 7:00 p.m., then?

MR. BADR: I don't believe so.

MS. CHURNEY: And did staff do any independent analysis of emissions rates from the particular turbines beyond the information supplied by the applicant?

MR. BADR: The applicant has submit to us a copy electronically, an electronic copy for the files, all the runs, all the modeling

scenarios they have performed.

We did review the assumptions they used, and the switches, the model switches implemented. And we agreed with them. And the mechanics of the model is the same. That mean if I would use the same switches, same assumptions you would come up with the same results basically. And that's what happened when SAIC had done the analysis, or Steve has done the analysis.

MS. CHURNEY: Did you contact, for example, the vendors with respect to their specifications or guarantees for the emissions?

MR. BADR: Who are you referring to?

MS. CHURNEY: The vendors for the turbines.

MR. BADR: No, I did not. But we have done similar analysis to that on similar turbines on different projects.

MS. CHURNEY: Did you look at source tests performed elsewhere on those, the particular turbines that are going to be used in this project?

MR. BADR: Yes. And we looked at them and similar turbines on similar projects, as well.

MS. CHURNEY: Did staff perform any

modeling assessing the differences in emissions that might occur with different stack heights?

MR. BADR: No, we did not.

MS. CHURNEY: Have you taken into account whether PM emissions will be cleanest when the turbines are new, and whether they deteriorate as the turbines operate over time?

MR. BADR: The assumptions here is that the turbine will be maintained for the lifetime of the turbine, itself. The applicant is responsible for meeting the emission factors that were spelled out in the conditions of certification, and they have to be maintained at all times.

There would be a source test to verify these emissions factors and these levels on a regular basis. So we have no reason to believe that in the year 26 would be different than year 1 in the operation, with these emissions of the project become on commissionally operated -- commercially operated.

MS. CHURNEY: Does it make any difference to staff under CEQA that the modeled PM emissions from the new plant would cause a new violation of a state standard or that it merely contributes to an existing exceedance of the

standard?

MR. BADR: Well, obviously the project contribute to existing violations of the standard, and is that 56 level with the background 57 mcg/cu meter happens in 1997. And there was one occurrence over the last seven years. So there is an additional 24 mcg/cu meter will come from the operation of this power plant. So that's adding to existing violation, and that's why ERCs were required.

MS. CHURNEY: Well, for example, would staff require anything different for mitigation if the new emissions caused a violation rather than simply contributed, if that 57 had never happened?

MR. BADR: Can you repeat the question again?

MS. CHURNEY: Sure. Would staff require anything different for mitigation for new emissions caused -- if the new emissions caused a violation, rather than contributed to one, if that, you know, just taking as an example, if that 57 had never occurred?

MR. BADR: Yes, we'll ask ERCs to be provided to mitigate the impact.

MS. CHURNEY: And just to clarify, that

exceedance that we're referring to, actually the measuring device here in Morro Bay only measures once every six days, is that correct?

MR. BADR: That's the procedure for measuring PM10 at the monitoring station, that's correct.

MS. CHURNEY: So it's possible that that exceedance, rather than being one day, could have been six days?

MS. HOLMES: I'm going to object, that calls for speculation.

PRESIDING MEMBER MOORE: Well, I'm going to overrule your objection. It's noted, but, Mr. Badr, if you can answer the question, please do, with an explanation if that's necessary.

MR. BADR: It may or may not, it depends on the circumstances that happens. A reasonable person -- if I look at table 3, air quality table 3 on page 3.1-8, and if you look at the pattern, you have from 1993 to 2000, and you will see that in Morro Bay, that's the one you are concerned with, the highest 24 hours measurements and the number of days above that standard, or above the standard of 50, it happens only once in '97, and twice in 1993. And this is the highest

observation.

You might be correct it could happen within that six days that there's no measurements, or it might not happen. But given the historical that we have before us, I have no reason to believe that there would be six days.

MS. CHURNEY: And while you have the FSA there in front of you, if you could turn to page 3.1-15.

MR. BADR: Yes.

MS. CHURNEY: And specifically the last paragraph under operational impacts. And it states that staff considers PM10 impacts to be significant if left unmitigated. Do you see that?

MR. BADR: Yes.

MS. CHURNEY: I just want to confirm with you that what you are proposing here is regional mitigation, is that correct?

MS. HOLMES: Regional --

MR. BADR: Yes.

MS. CHURNEY: Regional, would you like me to define it?

MS. HOLMES: Yeah, I would --

(Parties speaking simultaneously.)

MS. CHURNEY: I think he understood it,

I think he understood it. Regional meaning in a larger regional area, Countywide, perhaps, as opposed to within local concentrations or locally within the City of Morro Bay.

MR. BADR: Yes, that's correct.

MS. CHURNEY: And moving on to page 3.1-17 of the FSA, table 7B, that compares the modeled maximum concentrations for the existing plant and the new plant, is that correct?

MR. BADR: Yes.

MS. CHURNEY: And could you also set that next to the revised table 7B that was included in Ms. Soderbeck's declaration if you have that there, on page 6. And that's part of exhibit 139.

MR. BADR: I don't have it right now, so give me one minute.

I see the testimony.

MS. CHURNEY: And do you agree that the numbers included in the FSA were taken from the AFC prior to correction of the existing stack heights to 450 feet?

MR. BADR: In my testimony, or in the FSA, based on 145 feet, that's the new facility. And the old facility, as existed.

MS. CHURNEY: Do you have an understanding that the old facility modeling was done at an incorrect height to begin with, and that that was later corrected?

MR. BADR: Yes.

MS. CHURNEY: So that what is shown on table 7B of the FSA on page 3.1-17 was using the incorrect stack height, is that correct?

MR. BADR: I believe that was using the 450 feet height.

MS. CHURNEY: On the FSA page 3.1-18 staff discusses secondary PM10 impacts.

MR. BADR: Yes.

MS. CHURNEY: And indicates its concerns that the project's ammonia emissions have a potential to contribute to the ammonia nitrate particulates downwind from the project, is that correct?

MR. BADR: Yes.

MS. CHURNEY: And staff further notes that in the same paragraph that under the APCD rules Duke must provide offsets for the net increases in SO emissions, is that correct?

MR. BADR: Yes.

MS. CHURNEY: Are any such offsets being

required by staff with respect to the ammonia emissions?

MR. BADR: No. And it's not required because it's not -- ammonia is not a criteria pollutant.

But if you would provide mitigations for the sulfur, for example, and the ammonia, you are lowering this levels down to almost zero. And then the ammonia, by itself, will react with the existing NOx and sulfur.

So if you eliminate the existence or you offset -- eliminating by offsetting basically, the NOx and the SOx out of the -- coming out from the project, you already mitigated for it.

MS. CHURNEY: Has staff ever required more emission reduction credits or more mitigation than what the APCD requires?

MR. BADR: Is that a general question or specific --

MS. CHURNEY: Generally, yes.

MR. BADR: Yes, we have.

MS. CHURNEY: What factors would go into that determination?

MR. BADR: Are you asking when the staff will require such mitigations?

MS. CHURNEY: Right. More than what the APCD would otherwise require.

MR. BADR: If it's contributing to existing violations of the standards, if the project would contribute to the existing violation of the standards.

Or it would cause violation by itself. Or the staff are required, under CEQA, to require complete offsets.

MS. CHURNEY: If a district, for example, requires only a one-for-one offset for interpollutant credits, but other districts might require additional discounts on those types of credits, has staff ever imposed a different emission reduction credit requirement?

MR. BADR: Again, that's a general on any or specifically for this one?

MS. CHURNEY: Generally.

MR. BADR: Generally, yes, we have done that on several occasions actually. That we imposed a higher offset ratio than what was agreed by the district.

MS. CHURNEY: And what factors were taken into account in making that decision?

MR. BADR: The biggest one would be the

offset source and the location of the offsets and the distance between the offset source and the proposed project location.

Sometimes it's within 15 miles or 30 miles or 50 miles from the existing facility, or the proposed facility, and then it would become the distance, will negotiate basically a distance ratio would be acceptable to everybody. And that's the one we will go on with.

In our case, in Morro Bay, most of the offsets are coming out from the same location. So one-to-one is acceptable to us.

MS. CHURNEY: Did staff do any analysis regarding the PM size or composition of the emissions from which the proposed credits were derived, as compared to the emissions from the new plant? And that's in this case.

MR. BADR: I don't understand your question. Can you repeat it again?

MS. CHURNEY: Sure. Did you do any analysis comparing PM size or composition of the PM emissions from where the proposed credits were taken from as compared to the emissions from the new plant?

MR. BADR: Well, the existing facility

is burning natural gas. And the new facility, or the proposed facility, is burning natural gas. It's almost the same quality fuel anyway.

Fossil fuel, when it burns, the PM10 is going to be the same, and the products coming out from the same fuel would be the same. So, I guess there is a match here between the existing facility emissions and the proposed facility emissions.

MS. CHURNEY: Is it fair to say that the discounting that occurs over time with the banking process involvement with emission reduction credits is a regional benefit, and not necessarily a local benefit?

MS. HOLMES: I just want to ask a question of clarification about what she's referring to with the word discounting.

HEARING OFFICER FAY: Counsel?

MS. SODERBECK: I think what we're referring to here is the normal ERC process requires, in terms of the banking process, that there's a 20 percent discount of the emissions that are ceasing operation to not be entered into the bank, so to speak.

And whether there's any other

discounting beyond that, I think is what her question was going to.

MS. HOLMES: I think that question would be most appropriately addressed to the District.

HEARING OFFICER FAY: Is that acceptable?

MS. CHURNEY: Sure.

HEARING OFFICER FAY: Ms. Churney? Okay.

MR. WILLEY: Could you repeat the question one more time?

MS. CHURNEY: A discounting that occurs over time with the banking process for emission reduction credit is a regional benefit and not necessarily a local one, is that correct?

MR. WILLEY: Well, it's designed to be regional, but in this case we see a local effect, as well, because the credits comes from the area.

But, yes, it is. In fact, the PM10 problem is a regional problem, as well.

HEARING OFFICER FAY: Ms. Churney, I'm going to interrupt you at that point. Lunch is here and it's ready. And I understand it's clam chowder, so we don't want it to get cold.

We're going to take a 45-minute break.

And we'll resume with cross-examination of the staff panel by Coastal Alliance at 12:30.

(Whereupon, at 11:43 a.m., the hearing was adjourned, to reconvene at 12:30 p.m., this same day.)

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AFTERNOON SESSION

12:40 p.m.

HEARING OFFICER FAY: We are back on the record now. I'm going to explain, we had a sudden change of plans. Commissioner Moore's term was sort of, at will, and ended in January. And we were relying on the fact that these hearings had been previously scheduled. But we understand that the Governor has made a new appointment as of 1:15 and that we've received a legal opinion that the Commissioner cannot carry on the hearings after that time.

So, I apologize to everybody for the inconvenience, but we have until 1:15 to wrap up today, and there will be no hearing after that. And no hearing tomorrow.

What we're going to do, I've discussed this with a number of the parties, as a convenience to CAPE and Mr. Hartley, who came out from Oklahoma, we will stop right now, CAPE's cross-examination of the staff, and we will pick that up at a later time to be noticed. I can't tell you when that will be, but you will be notified.

We'll now move to Mr. Hartley, who will

submit his testimony and be made available for cross-examination. Is CAPE ready to --

MS. CHURNEY: Yes, it's --

HEARING OFFICER FAY: -- offer their witness?

MS. CHURNEY: -- it's Mr. Hartman, and I'll call --

HEARING OFFICER FAY: Hartman, I'm sorry.

MS. CHURNEY: -- Mr. Hartman as CAPE's witness.

HEARING OFFICER FAY: Okay, will the court reporter please swear the witness.

Whereupon,

JOHN HARTMAN

was called as a witness herein, and after first having been duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MS. CHURNEY:

Q Mr. Hartman, could you please state your name for the record, spelling your last name.

A John Hartman, H-a-r-t-m-a-n.

Q And have you submitted a declaration in this proceeding?

A Yes, I have.

Q And was that declaration prepared by you or at your direction?

A Yes.

Q And do you have any changes, corrections or clarifications to make with respect to that declaration?

A No, I do not.

Q Are the facts stated in that declaration true and correct -- and by declaration I'm including the report that is attached to that declaration?

A Yes.

Q And are the opinions your own?

A Yes.

Q And do you adopt that declaration with the attached report as your testimony?

A Yes.

Q And just quickly by way of background, would you please state your background.

A I have a masters in business administration from the University of Tulsa; also a bachelor of science in business administration, Missouri Center State College in Joplin, Missouri. I have 24 hours of accounting in that degree. I

had six hours advanced accounting and auditing while I was receiving my masters degree.

I own a company called Savvy System Designs, which was founded in 1985 and continues to this day. I have provided a lot of different services including software research, hardware and software integration, and I have several skills that are used in this business, including beta conversions and charting, forecasting and those types of things. And statistical analysis.

I've also been involved throughout my career in forecasting.

HEARING OFFICER FAY: Excuse me, Mr. Hartman, --

MR. HARTMAN: Yes.

HEARING OFFICER FAY: I'm sorry to interrupt you, but we will take notice of all your information --

MR. HARTMAN: Okay.

HEARING OFFICER FAY: -- in your r,sum as filed, --

MR. HARTMAN: Sure.

HEARING OFFICER FAY: -- and we can move on.

MS. CHURNEY: Yes.

MS. HOLMES: Is the witness available for cross-examination?

MS. CHURNEY: The witness is available for cross-examination.

HEARING OFFICER FAY: Mr. Harris, you can begin cross-examination.

MR. HARRIS: Thank you.

CROSS-EXAMINATION

BY MR. HARRIS:

Q Mr. Hartman, did your analysis depend on whether the source of PM10 is that -- does your analysis depend on what the source of PM10 is?

A I'm not sure I understand your question. The source? Where it comes from, or --

Q The composition, the characteristics of the PM10.

A You mean what it's made of? My report is on measured PM10, and I'm using in this report when I was selecting what concentration was going to be coming from the Duke plant, I got the information from several places.

Q Let me be more specific.

A Okay.

Q Does your analysis depend on whether the PM10 is from a gas-fired unit versus a wood stove

or some other source?

A No, it does not. PM10 can come from lots of different sources.

Q And is your analysis linear?

A Yes, I believe that they -- yes. Yeah, linear.

MR. HARRIS: No further questions.

HEARING OFFICER FAY: Great, thank you very much. Does the staff have any questions of Mr. Hartman?

MS. HOLMES: No questions.

HEARING OFFICER FAY: Does the City have any questions of Mr. Hartman?

MR. SCHULTZ: No questions.

MS. CHURNEY: Can I follow up then with allowing him to summarize briefly what's in the report?

HEARING OFFICER FAY: Sure, and if you have any redirect, as well.

MR. HARRIS: Mr. Fay, I want to object to that. We truncated our cross-examination on the understanding that he was going to present his evidence. And now that he's finished quickly, I don't think he should have the opportunity to go back and present the evidence.

HEARING OFFICER FAY: Let's go off the record.

(Off the record.)

HEARING OFFICER FAY: Mr. Hartman, I want to thank you for your testimony --

MS. CHURNEY: Well, we would like to call him now in rebuttal.

HEARING OFFICER FAY: In rebuttal?

MS. CHURNEY: Right, to testimony that's been presented by the applicant.

HEARING OFFICER FAY: This is the first we've heard about this.

MR. HARRIS: Could we be off the record, please?

HEARING OFFICER FAY: Yeah, let's go off the record.

(Off the record.)

HEARING OFFICER FAY: We had an off-the-record discussion and CAPE is going to offer a brief rebuttal by Mr. Hartman, keeping in mind that there may be cross-examination of his rebuttal.

So, we have interrupted CAPE's cross-examination of the staff et al, and we'll have to pick that up at a later date.

Go ahead, Ms. Churney.

DIRECT EXAMINATION

BY MS. CHURNEY:

Q Mr. Hartman, you heard Mr. Rubenstein's testimony here yesterday and earlier today regarding questions they have with respect to the methodology used in your analysis. I'd like to ask a few questions about that.

First of all, they have stated that they feel that your analysis is improper because the cities that you used are overwhelmingly large cities where it is claimed that there's more toxic particulate matter than in Morro Bay. Do you have any comment with respect to that criticism?

A The studies that have been done show this relationship between increased levels of particulate matter, PM10, and premature mortality. And irregardless of whether it's a small town or large town, these relationships hold.

Q And there's also been criticism that the statistical studies relied upon deal with multiple pollutants and different weather and different genetic predispositions by the population. Do you have any comment in that regard?

A Well, in my paper I refer to a study by

John Levy, and they looked at those effects of correlated gaseous pollutants and the only thing that seems to stand out is SO2. But it was not terribly significant and didn't affect my analysis.

Q Another criticism was with respect to the domain, that you cannot take a domain from one study and say that it applies to a different source or a different area. Do you have a comment in that regard?

A Again, as I prepared the study and I was asking questions of the author, one of the authors, John Levy, who's Assistant Professor of Environmental Health and Risk Assessment --

MR. HARRIS: I'm going to object to this not being part of his testimony, or our testimony, either.

HEARING OFFICER FAY: Sustained.

BY MS. CHURNEY:

Q Do you have any other comments with respect to the domain?

A I don't see any reason why this cannot be applied at all.

Q And another criticism was that claimed to be a basic method flaw and that is taking a

maximum concentration that occurs in one place and assuming that it occurs throughout the city. Do you have a comment with respect to that criticism?

A Well, one comment would be that they're required to provide these maximum impacts and review them, and use to analyze the other criteria pollutants. I don't see any reason why we shouldn't use it for PM2.5.

And we have -- the information that we have is a maximum effect. And I think there were several questions of what would be the, you know, the normal effect, what would be the expected increase in -- the ambient increase in PM2.5.

And my point here is that it is perfectly possible to run the simulation to find out what those answers would be.

But even if I cut my estimate in half, say instead of saying .66 mcg/cu meter, if I cut it in half to .33, I would still have a significant effect.

Q And what -- okay.

A I'm sorry, go ahead.

Q And finally, Mr. Ringer had a criticism comparing which he drew upon the sick cities comparison and the comparison between Topeka,

Kansas and Portage, Wisconsin. Do you have a comment in that regard?

A Well, the one in Topeka, Kansas is one of the very few that actually had, there's a negative effects on mortality. But all the other cities, and again that pool, the study by John Levy, discusses that. And he looks at all those studies and the majority of the studies are all show a positive correlation between premature mortality and the increased levels of PM2.5.

MS. CHURNEY: Thank you.

HEARING OFFICER FAY: Okay, cross-examination, based just on the rebuttal.

MR. HARRIS: Can I have just a moment, please?

HEARING OFFICER FAY: Sure. Will you have any, Ms. Holmes?

MS. HOLMES: No.

HEARING OFFICER FAY: Okay. Will the City have any?

MR. SCHULTZ: No.

MR. HARRIS: I do have one question.

CROSS-EXAMINATION

BY MR. HARRIS:

Q Do you know of any peer reviewed

scientific articles that apply epidemiological findings to calculate the potential health impacts of a specific power plant?

A Well, actually I know of a study that's being done.

Q Do you know of any studies is the question. Peer reviewed scientific articles. I think it could be a yes or a no.

A Yes.

Q And what study would that be?

A There's a study by -- well, it's not in press yet. So I'd have to say, I'd have to change my answer. There's an article that's about to be published. So that's the only one I'm aware of.

Q And so the answer is then at this stage no?

A At this stage, no.

MR. HARRIS: That's all, thank you.

HEARING OFFICER FAY: Okay, any other cross-examination of Mr. Hartman?

MS. CHURNEY: I have one follow up question.

HEARING OFFICER FAY: All right.

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REDIRECT EXAMINATION

BY MS. CHURNEY:

Q What is the study that you're aware of that's about to be published?

MR. HARRIS: I'm going to object. That wasn't my question.

HEARING OFFICER FAY: Overruled. Go ahead, answer the question.

MR. HARTMAN: The study is by John Levy and John Spengler of the Department of Environmental Health -- School of Public Health, and they're modeling the benefits of power plant emission controls in Massachusetts. And it's set to be published in the Journal of Air -- Management Association, although it has not been published yet.

MS. CHURNEY: Thank you.

HEARING OFFICER FAY: Okay, any recross?

MR. HARRIS: Excuse my confusion. I thought that redirect would come after staff and the other folks did their questions, and so that's why I was surprised that Ms. Churney asked a question, so.

HEARING OFFICER FAY: Staff had no recross. Do you have any further recross,

Mr. Harris, limited to that one response?

MR. HARRIS: No.

HEARING OFFICER FAY: Okay, --

MS. CHURNEY: At this time, then, I would move that portion of exhibit 139, which consists of Mr. Hartman's testimony and attached exhibits into the record.

HEARING OFFICER FAY: Okay, is there objection? All right, hearing none, that is moved into the record.

And we thank you, Mr. Hartman, for your testimony, and you are excused.

That concludes Mr. Hartman's testimony. As I indicated we still have to bring the staff panel back, and we will resume in the future, CAPE's cross-examination of that panel.

MS. HOLMES: Mr. Hearing Officer, if I could, we have one witness on the panel who has traveled some distance, not from Oklahoma, and I wonder if it would be possible to find out whether or not CAPE has questions of him. And if so, whether they could be completed between now and the --

HEARING OFFICER FAY: Let's go off the record.

(Off the record.)

HEARING OFFICER FAY: We had an off-the-record discussion and CAPE indicated they had no questions on cross-examination of Mr. Ziemer, so Mr. Ziemer of staff panel, consultant to the Air District, is excused. Thank you for your testimony. The rest of the panel we will have to call back.

At this time I would like to ask if any members of the public would like to make comments regarding air quality?

Yes, sir, could you come up and use the microphone right over there. Please give your name.

MR. ZAITZ: Z-a-i-t-z. Normally I don't get involved in I guess you call it greenie activities, what I consider it, but I have a family and we've been here about three years, and I'm very concerned about what I see coming out of those smoke stacks.

And I'm not going to be convinced, and no one's going to convince me it's all just dandy stuff, and we should be breathing it every day. Okay. I think there has to be something done about this.

I just came back from Dallas, Texas. I have a friend of mine in the gas and oil industry, and he's working on technology which absolves the pollutants out of the air because of EPA regulations in other states.

They put a device, which is a quart-size disc in place on generators, diesel generators, and they've actually been able to get all the particles out through that process that they developed.

I see that there is a solution here. I don't see we should have these, you know, tables separated and all this eloquent dialogue that's going on here. I find it kind of interesting, but my first encounter with it.

There's money being made and that's always a factor that motivates people in extreme ways.

But we're the ones living here breathing the air. And that's the nitty gritty, okay. We have to live here. I don't think anybody would want to put their face in front of the smoke stack and tell me that's just wonderful stuff coming out of there. I don't think you'll last over a couple seconds.

Anyone trying to convince me those particles going up and meeting other particles and are dancing around in the atmosphere and it's just a wonderful thing, I won't buy that one, either.

I believe there is a solution of putting some groups together and finding a process of creating a process to get rid of the pollutants. I think that's an answer. I think there are groups out here that buy land on the coast; they want the ecology to be maintained. And we could get a foundation, and maybe even possibly keep Duke from having to absorb the cost. And I don't see where they would be opposed to anything that would maintain the process of generating funds for everybody so that they'd be happy, and also we could solve the problems with the pollutants going into the atmosphere for the residents, so we don't have to continue to breathe these things.

I think there's some falsifying information from what I can see. I keep hearing things, like I said, I'm very objective, I don't have a side. I'm not on anybody's side here. I'm on the side of the people that live in this town. And we have to live here, and we have to breathe this air. Okay, that's who I'm standing on the

side of.

So, everybody's experts in their domain. There are certain facts in certain areas, certain facts in other areas, everybody's trying to put their cause forth. They want to promote statistics which say this, statistics that say that.

All I'm saying is there's a solution and we can come up with a solution that will work. I think it would champions on both sides of the fence. I feel Duke would be champions and I think the locals would be champions. I think all the organizations.

And what I'm going to do, we've already used this process with the Postal Service and some other things and it works out perfectly well. It's new technology. It uses, like I said, some type of ionic transfers and not knowing the process completely, I work with new technology, new companies. I will bring this forward. I will bring data on this. And we could look at a possibility for solving the problems. And I would certainly like to pursue that.

And so at a later time, whenever the next meeting is, I will have some facts here. I

will bring them forward. And everyone can review that and see if there's not solutions to the problem.

PRESIDING MEMBER MOORE: Thank you.

HEARING OFFICER FAY: Thank you. Any other comments? Yes, sir, please come up and state your name and spell it for the court reporter.

MR. WAGNER: Do you need this?

HEARING OFFICER FAY: No, --

MR. WAGNER: I don't think I do, either.

HEARING OFFICER FAY: -- you can just say it. He was referring to our comment sheet. And you're welcome to fill that in if you don't want to speak into the record, otherwise we'll just hear it.

MR. WAGNER: Trying to keep a sense of humor here, folks. My name is Leonard Wagner and I'm from Sacramento, California. And I've over here, I want to just highlight or put an accent on the positive of what this gentleman said ahead of me.

I'll make this short, brief and to the point. With all due respect to Duke Energy and everybody else here, the City lawyer and whoever

that I've had the pleasure meeting for a minute, and the citizens.

I'm over here looking at properties. I been in Sacramento a long time and I'm familiar with SMUD there and PG&E, the nuclear power plant they built there at one point, I worked on it. I participated in that. Worked with Aerojet out there, and McClellan Field, Mesa Field, Army Signal Depot, all over the canvas. All the industry, the pollution that was caused by the rice mills there in Sacramento.

So I figure I have a little bit of expertise here, so to speak. My main concern at this point, and I'm sure you all have your own feelings, if you have wife and children, grandchildren, whatever, or just yourself, my goal, if I can attain it, living here and Sacramento, I'm going to go to the State Capitol again, I've been going there talking to different people, is to have the best beaches, air quality, ground quality, get the water quality back, get the fish back.

When I came here years ago we could go fishing and catch fish here. Now I'm going to go again, we're going for a boat ride. Well, no

offense, I don't need to come all the way to Morro Bay to go for a boat ride. I can go on a boat ride down the Sacramento River.

I'm not trying to be sarcastic or point my finger at anybody, I think what, if God willing, we could all get together, all of us, and figure out the most economical and best way to do this.

Money's always the bottomline. You have to have money. I could never have enough money. I told them I'll never spend all the money I have in my lifetime anyway, so I'm going to give it to the grandchildren, a little joke there, folks.

That's about really all I have to say. This is a beautiful place, Morro Bay. Let me just say this, as a parting shot. Guy passed away here and he went to heaven. St. Peter meets him at the gate and he says, where you from. He says Morro Bay. He says, well, you might not stay with us very long.

The other part of the coin was, at the end of the day here in Morro Bay he said, well, another day of paradise.

And I'll cut it off at that point. And I will thank all of you and pray to god that we'll

all get together and do what's best for everybody.

Thank you.

HEARING OFFICER FAY: Thank you. Any other comments? Yes, please come up to the microphone.

(Pause.)

HEARING OFFICER FAY: Please state your name for the record.

MR. FREILER: Hello, my name's Robert Freiler. I'm a homeowner in Los Osos.

HEARING OFFICER FAY: Would you spell your last name, sir?

MR. FREILER: F, as in Frank, -r-e-i-l-e-r. First a couple of comments on the Americans with Disabilities Act and accessibility to this meeting. When I showed up yesterday I was very surprised to see that there were no seats removed so a wheelchair could come in here and sit like everybody else is, under the ADA. That there was no marked parking places outside for parking, disabled parking.

I talked to Priscilla Ross in Sacramento this morning. She assured me that staff had been told that this was an accessible building and, yes, I could get in this far, but this is, under

the ADA this is not an accessible building.

And I explained to her, that, yes, reasonable accommodations were requested for five days advance notice. But under the ADA for ten years now this building should have had changes to it, taking care of the parking and the seating.

So I hope that when the hearings resume that they will be in a legal building.

My comments are, I have a story. Once upon a time long ago some people got together and formed a company and built a power plant with big smoke towers. For many years much smoke, tons and tons of airborne pollutants, and many millions and millions of sea creatures were sacrificed, killed for the benefit of all the people who have used the electricity. And, of course, for the benefit of the good people who ran and owned the company.

There were other short-sighted sacrifices long ago, like blowing up half that nice old rock, Morro Rock, so that people had building materials to build their cities with.

What people did not realize is what the future would be. People who made their living fishing the ocean would have to stop fishing many kinds of fish because not enough sea life lived to

have babies. And that the nice old rock was worth more in terms of tourist and land-value dollars than it was blown up into little pieces and carted away.

That pollution is very bad for everyone, especially babies, children and old folks.

That was then and this is now. The people know the value of sea life. They know the dangers and costs of air pollution. Pacific Gas and Electric, the old company, used and profited from the power plant for 50 years. But the poor old power plant that spewed and killed was past its prime. And so PG&E sold their power plant.

A nice power company, Duke Power, from back east, bought the past-its-prime old company. Those Duke people thought, aw, shucks, those people out west will more than understand our need to make our stockholders and the people who run our power company their money back, plus a tidy profit.

Those slow people will not mind a bit sacrificing the Bay, the fishermen and the fisherwomen. Breathing dirty air and sacrificing central coast life for another 50 years.

The thing that gets me is this:

Companies do not have to cool their power plants with sea water in the 21st century. In the 21st century power plants can be cooled with air, without any sea and estuary water. None. Smoke can be swept clean before it's returned to the sky.

The money crunchers at Duke know a good thing when they figure one. They know it's cheaper to cool with sea water. You make more money with less cooling with sea water. Is this legal? Duke Power should not be able to sacrifice our air and fishermen and fisherwomen for the short-term profit.

Morro Bay Estuary is the last remnants of a singular resource, one of the last remaining estuarian systems from here south. It is a necessary nursery for many important species and needs protection.

Honorable members of the California Energy Commission, I'm asking you to acknowledge the real cost of this power plant to our community and to our environment.

The technology exists to build a modern, clean power plant. Thank you.

HEARING OFFICER FAY: Thank you for your

comments.

Does any other member of the public wish to address the Committee? Please come up to the mike and state your name.

(Pause.)

MS. DAVIS: My name's Mandy Davis. I have no intentions of leafing through a bunch of papers and boring you guys to tears this time.

But the reason why I'm here is primarily I care for the wildlife in this area, and for the greater community incredibly. And I would like to address the fact that yes, we are speaking about public safety and we're addressing air quality issues.

But I think that what we have done is we have addressed this entire section or segment in a very anthropocentric way. There is a much larger community out there to address. There is a much larger aspect to safety and to what's going to happen to this community with the kinds of pollutants and the possibility, you know, that -- we're looking at a human community here, but to put it into perspective, we have a wildlife community that is considerably more sensitive in many ways than we are.

I'll give you a really good example, one that everybody will be very familiar with. It's the canary in the cave. There's a really good reason why they put that canary in there. They have -- most avian species, and I can cite you a variety of different studies, have extremely sensitive cardiorespiratory systems.

And for us not to address within this segment where we are talking about air pollution and its effects on public safety and the community, as a whole, would be remiss.

I'd like to read something to you, and hopefully it will put things into perspective, and hopefully it will put things into perspective for you and everybody here that is listening to all this.

And it's something -- I'm hoping that what we can do, because everything is so broken down into segments that getting the big picture is very difficult to do sometimes. And that's something we're going to have to do at the end of all of this.

This is a quote, it's very short. "For mankind will find its greatest strength, reach its loftiest goals and realize its full potential when

it recognizes its elemental connection to all that exists and tempers all of its actions to be in harmony with and in reverence for life."

I think it is our responsibility as members of this community. It is Duke's responsibility, as a very large member of this community. It is the CEC's responsibility as a member of a much larger community. And you do have a lot of power and you have a lot of say. That we should consider the fact that we are members of a much larger community, and we need to look at that.

So, I have a solution. And I know the fellow that -- he's not sitting here, and last time I spoke, he goes, you know, you got to quit telling us about the problems without coming up with a solution. I have, at least, an answer to one of the potential problems here.

And that's the problem that I'm addressing is the fact that we're breaking this up into a bunch of little pieces, and we're not seeing the big picture. The big picture is the whole community.

Yeah, you might have gone down the street and might have got tacos down at Taco del

-- you've walked around and had some coffee at the Coffee House, and you see these guys here, you see these guys here. I'm standing up here. But you don't have the big picture.

So, what I'm going to suggest is this: I know that you have obliged Duke; you have gone to take, if not one, if not a couple of tours at their power plant. And what I am suggesting to you is that you give me the same right to be able to give you a tour of a much larger power plant.

That power plant I'm speaking of is the estuary. It is much larger, it is much more diverse. And it is a very sensitive production of power, you know, it's something that's incredibly sensitive. And every single aspect that we're talking about here is going to affect it.

So what I would like you to do, and I'm making this invitation to anybody on the CEC, anybody that is an intervenor, you know, at least one of the lawyers, one of the representatives, anybody from APCD, that you come out on a tour of the estuary with me.

That way you can see the big picture. You can see the greater community. You can see these avian creatures that are absolutely amazing,

that not only live here, but they also happen to migrate through here. You can see the kinds of creatures that this pollution is going to affect, and does affect right now.

You'll get a much better picture of the large community that we have responsibility for, and that we are part of.

So, I am extending an invitation to you, and everyone here -- well, not everyone, sorry, guys, I can't take you all -- but I would like to take you on a tour of the estuary. I have a very good friend that's an award winning environmental educator. And she also happens to work for the NEP, and I'm hoping that she can come along.

I'm kind of putting it out there and hopefully I won't get her in trouble. And I also happen to be a wildlife rehabilitator; have an extensive background in wildlife biology. And I would like you to see what our decisions here are affecting, besides the humanity. We're only a small part of it, guys.

So, I'd like to invite you. We could do it this afternoon. We could do it tomorrow. We could do it during the next set of meetings, but I'm hoping that you can get together, figure out a

time that I can take you on a power plant tour, okay?

So that's one thing that I would like to address. And I would like to have an answer.

The other thing that I would like to address is I understand this gentleman's comments about epidemiological studies. And their efficacy or their appropriateness in these kinds of hearings.

And I also understand that, you know, that being able to control the kinds of issues that they're looking at is usually a huge problem. But we have an opportunity here, and actually I think you guys have been remiss, you've been remiss, pretty much we've been remiss straight across the board in not doing the best job that we can.

We have an opportunity in this region, actually very very locally, to do a very effective epidemiological study. And that study would be considering the majority of the weather, the majority of the wind patterns, the meteorological information that we have.

We have a community here that the majority of the pollution, you know, stays within

this community, south, southwest, southeast. But the majority of the pollution within all of the studies and modeling does not go up into the Cambria area.

So what I'm suggesting is that we model or we actually not model, I've had it with modeling, I'm sorry, I just don't, you know, modeling doesn't cut it, but we have two communities that are very similar demographically. They're very similar from a geographical standpoint. They're very similar in size. They both have Highway 1 going through them.

And we basically have an opportunity to limit a lot of the factors and to be able to compare two communities, the same size, coastal communities in an epidemiological study.

The reason why I ask for this is because I notice this myself, I happen to be a human canary. And I was wondering why in god's name these guys didn't put together a very appropriate smaller and more broad-based epidemiological study from a regional standpoint.

So I suggest also that this could be something that could be undertaken, and be presented as part of the evidence here.

HEARING OFFICER FAY: Great, thank you, --

MS. DAVIS: Um-hum.

HEARING OFFICER FAY: -- Ms. Davis, for your comment. That concludes the taking of public comment.

And as I explained earlier, the hearing has to end at 1:15, and so you will be getting notice of future hearings. Right now, what is scheduled for our next hearing is March 12th, and I don't have confirmation of whether it will be in this building. And so be sure to pay close attention to the address on the notice.

But it looks like March 12, 13 and 15, until you get further notice.

MR. SCHULTZ: Hearing Officer Fay, I have just one question. I'm going to assume that the air quality briefs are not going to be due with all the other briefs towards the end of this month, or whatever the date was, since we haven't finished.

HEARING OFFICER FAY: Absolutely, there's no way.

MS. HOLMES: So you want us to brief the topics that we've completed --

HEARING OFFICER FAY: Brief the topics we've completed, but leave out air quality and public health. And we'll have to reschedule the briefing schedule for those.

And those who have concerns about these matters, write the Governor.

(Laughter.)

MS. HOLMES: The Governor's not going to help with the briefing schedule. I would point out --

(Laughter.)

MS. HOLMES: -- a discussion about the fact that the schedule for the second set of briefs was going to be tight potentially, depending upon the testimony dates. I would encourage the Committee, when they come up with the final scheduling order, to consider the fact that the next set of briefs is now going to be much more extensive than you had originally anticipated.

HEARING OFFICER FAY: That's right, thank you for that.

Okay, any other last comments?

MR. HARRIS: Yes, Mr. Fay. We may have problems with having our, although they won't be

witnesses, our experts available on the 12th and the 18th, and so we'll --

HEARING OFFICER FAY: Communicate with me on that.

MR. HARRIS: Communicate with you on that.

HEARING OFFICER FAY: And we know you have an availability problem on March 14th, as well, for your witness. We take note of that.

MR. HARRIS: Okay, Commissioner and Hearing Officer, could I briefly say something else?

HEARING OFFICER FAY: Sure.

MR. HARRIS: Completely out of character, kind of nice?

(Laughter.)

PRESIDING MEMBER MOORE: Are you ready to go off the record, counsel?

MR. HARRIS: No, actually do it on the record.

Commissioner Moore, the circumstances are pretty strange today, but I did want to take the opportunity to thank you for your service to the people of California. Professionally, I think we have a tremendous amount of respect for you,

and personally have enjoyed working with you.

And so I know I speak for a lot of people in the room when I say thank you, and you will be missed, both on this project, and in the Commission's overall work. So, thanks.

PRESIDING MEMBER MOORE: Thank you. Very kind of you to say that. And I would end this hearing with just a couple of notes. And that is to say that there is a Second Member, and like any other government agency designed to serve the people, we have thought out the rights of succession, or the responsibilities of succession.

And I want to assure all of you that Commissioner Keese is well informed on the case. His Advisor, Terry O'Brien, who is here, will be the keeper of my notes. And those notes will transfer over into the hands of the next Commissioner. And Commissioner Keese will take the case over seamlessly and it will proceed apace.

There will be another Commissioner assigned, I'm sure, to be Second Member on this case. I don't know who it will be. And I'll simply say I wasn't expecting to have it end this way, but a privilege to be in Morro Bay when it

did.

So, thank you, all, for your hospitality and your kindness. And I trust that my successor and the Energy Commission will serve you well. The process has proved itself to be a good one, and I think the depth and the breadth of these hearings proves that. And whether you feel that you got exactly the decision that you wanted at the end, I believe in my heart of hearts, I have to believe this or I couldn't have been in public service, that the decision which finally gets rendered will be an honorable one.

Adjourned.

(Whereupon, at 1:22 p.m., the hearing was adjourned, to reconvene sine die.)

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CERTIFICATE OF REPORTER

I, JAMES RAMOS, an Electronic Reporter, do hereby certify that I am a disinterested person herein; that I recorded the foregoing California Energy Commission Hearing; that it was thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said hearing, nor in any way interested in outcome of said hearing.

IN WITNESS WHEREOF, I have hereunto set my hand this 13th day of February, 2002.

JAMES RAMOS